



An  
Bord  
Pleanála

## Inspector's Report

### ABP-307674-20

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<b>Development</b>	Repair and strengthening work to existing weir and incorporation of a rock ramp fish pass.
<b>Location</b>	Lower Tinnahinch Weir on the River Barrow, off the R705 in the townland of Tinnahinch, Co. Carlow
<b>Planning Authority</b>	Carlow County Council
<b>Planning Authority Reg. Ref.</b>	19/289
<b>Applicant(s)</b>	Waterways Ireland.
<b>Type of Application</b>	Permission.
<b>Planning Authority Decision</b>	Grant Permission
<b>Type of Appeal</b>	Third Party V. Decision
<b>Appellant(s)</b>	Canoeing Ireland and Others.
<b>Observer(s)</b>	None.
<b>Date of Site Inspection</b>	10 <sup>th</sup> March 2021.
<b>Inspector</b>	Susan McHugh

# Contents

1.0 Introduction .....	3
2.0 Site Location and Description.....	3
3.0 Proposed Development.....	4
4.0 Planning Authority Decision .....	12
4.1. Carlow County Council Decision .....	12
4.2. Planning Authority Reports.....	13
4.3. Prescribed Bodies.....	15
4.4. Third Party Observations.....	16
5.0 Planning History.....	20
6.0 Legislative and Policy Context .....	21
7.0 The Appeal.....	23
7.1. Grounds of Appeal .....	23
7.2. Applicant Response .....	24
7.3. Planning Authority Response .....	24
7.4. Observations .....	25
8.0 Planning Assessment .....	25
9.0 Appropriate Assessment .....	34
10.0 Recommendation.....	53
11.0 Conditions .....	55

## 1.0 Introduction

- 1.1. Waterways Ireland is seeking permission to carry out works to an existing weir and provide a fish pass along the River Barrow on the boundary between Carlow and Kilkenny County administrative areas.
- 1.2. The portion of the site within Carlow County Council comprises a section of the eastern riverbank out into the middle of the river. A concurrent application was lodged with Kilkenny County Council for the western portion of the overall site, from the centre of the river to the lands on the western riverbank (PA Reg. Ref.19/507).
- 1.3. The repair and strengthening work to the existing weir and provision of a rock ramp fish pass will require works within the River Barrow which forms part of the River Barrow and River Nore SAC. A Natura Impact Statement (NIS) was lodged by Waterways Ireland on the basis of the proposed development's likely significant effects on European sites.
- 1.4. The application documents refer to the overall project, and I intend to deal with the overall development in its entirety.

## 2.0 Site Location and Description

- 2.1. The appeal site is located in a rural area approx. 2km south of Graiguenamanagh in Co. Kilkenny. The county boundary at this location runs along the centre of the River Barrow. The east riverbank is located in the townland of Tinnahinch, Co. Carlow, the west side bank is located in the townland of Brandonale, Co. Kilkenny.
- 2.2. The overall site extends from just upstream of the existing weir and continues just south along the river course. The eastern portion of the river bank at this location is visually open, while the western bank of the river is wooded, providing a forested back drop. There are no residential properties in close proximity to the weir.
- 2.3. A navigable canal and tow path runs parallel to the river on its eastern side allowing river traffic bypass the Lower Tinnahinch Weir. A narrow linear island separates the existing canal and the eastern riverbank. Beyond the canal the east bank opens up to a broad flood plain.

- 2.4. The west bank of the River Barrow rises sharply up to the R705. Access to the appeal site is via a pedestrian track accessed via a long access driveway to the adjoining WWTP from the R705 to the northwest.
- 2.5. The existing Tinnahinch Lower Weir structure is a curved construction and spans across the main River Barrow channel and measures approx. 103m long. It crosses the river diagonally on a north-west to south-east axis. The weir has an existing fish pass located at the upstream end of the structure offset approx. 30m from the west riverbank.
- 2.6. The width of the weir at the bottom of the structure is 6.70m on average. The crest of the weir is at an approx. level of 8.31mOD, while the toe level is on average 7.23mOD on the downstream side. This represents an average weir height of 1.08m. The existing fish pass is in the form of a 1.94m wide notch with the crest level dropped locally by 240mm to 396mm.
- 2.7. There are three other depressions in the existing weir on the east side of the structure; these localised depressions in the existing structure are due to masonry loss.

### **3.0 Proposed Development**

- 3.1. The application was lodged with the planning authority on the 22/07/2019 with further plans and details submitted on the 20/03/2020.
- 3.2. The proposed works at the Tinnahinch Weir Fish Pass would involve the provision of a 'partial width rock ramp fish pass' downstream of the existing weir structure. The outline of the proposed rock ramp would be defined by the existing weir on the east side and by the riverbank of the west side.
- 3.3. Localised repair to the existing weir would be undertaken and all existing gaps in the weir would be reinstated with masonry. The upper section of the river bank would be re-sloped and re-vegetated.
- 3.4. The in-river construction works would be confined to the months of July to September with proposed works lasting approx. eight weeks. Due to difficult access issues the proposed works would be carried out in two sequential phases.

- 3.5. The first phase would be within the Kilkenny County Council administrative area and the second within the Carlow County Council administrative area. Both phases are intrinsically linked.
- 3.6. Each phase would involve the construction of a half of the proposed rock ramp and works to half of the existing weir structure. Half of the river channel downstream of it would be dammed and separated from the river flow in order to carry out the proposed construction works in a dry and safe environment, while the remaining section of the weir and channel would have unobstructed flow.
- 3.7. Access to the weir for the works, will be provided along the existing access track which will be upgraded, along the western river bank and within the Kilkenny County Council administrative area. A temporary fence will be erected around the terrestrial works area, with the reinstatement of the access track on completion of the works. A silt fence will be erected along the northern side of the track to prevent sediment run off from reaching the river.
- 3.8. A work boat and pontoons would be required to transport the excavator and construction materials across the river from the river bank to phase 2 of the works. Construction works would be carried out with the use of an excavator. No stockpiling of construction materials on site, would be required as these will be delivered on a daily basis.
- 3.9. Following the erection of the temporary damming, any fish, crayfish and other freshwater fauna would be relocated from within the bunded area prior to commencement dewatering/pumping activities. The relocation would be carried out under the supervision of the IFI Representative and a qualified Ecologist.
- 3.10. An outline method statement for the proposed works is set out in Section 8 (Stages 1-4) of the Planning Report, to which I draw the attention of the Board.
- 3.11. The main construction works would consist of the following;

Remedial works to existing weir

- Repair all damaged masonry using recovered stone blocks where possible and newly imported limestone blocks with a similar size to the existing blocks. An underwater proprietary lime mortar will be used to bind the new masonry blocks.

- The voids in the core of the weir would be filled with a low pressure concrete grout.
- Rock armour would be placed at the base of the weir where erosion has occurred.

### Proposed rock ramp

- Partial channel width construction defined on the right hand-side by the existing riverbank and on the left hand side by the existing weir.
- Constructed directly downstream of the subject weir, in the most upstream, north-west section of the existing obstacle. The outline of the proposed rock ramp would be defined by the existing weir construction on the east side and by the existing riverbank on the west side. The riverbank would be strengthened with scour protection alongside the proposed rock ramp.
- The rock ramp would be 30m to 40m wide and 72.6m long consisting of 9 No. steps. The proposed rock ramp would be strengthened with an 8m long scour protection apron provided at the downstream end of the proposed fish pass. The rock steps would be formed in such a way as to create 500mm falls with a head drop of 175mm between the ridges.
- The base of the rock ramp would consist of min 600mm thick layer of crushed stones (9 to 12 inch diameter), laid on min. 250mm thick underlayer of gravel material. The rock ramp steps would be constructed of angular block-like shape rock boulders min. 1500mm high x 1000mm x 500mm, quarried locally. The boulders in each step would be interlocked against each other and embedded a minimum of 2/3 of their height.
- Construction on the west side will be defined by the natural river bank. The existing river bank will be strengthened with a rock armour scour protection alongside the full length of the proposed rock ramp, consistent with the existing partial masonry construction wall at the south end of the weir. The proposed rock armour scour protection would tie-in with the existing stone masonry.

- Rock armour scour protection would be provided to the lower 2/3 of the existing river bank height as a minimum and follow the slope and geometry of the bank. It would consist of heavy armour of min. 500mm high x 1000mm x 1000mm angular block like shape rock boulders (quarried locally), placed on a layer of crushed stones and sublayer of compacted gravel material. The upper section of the river bank would be re-sloped and re-vegetated.

3.11.1. The main elements of the construction methodology would consist of the following;

- Temporary dam would be installed with a silt curtain and oil boom
- Enclosed area would be electro fished by Inland Fisheries Ireland
- Crushed stone would be used to form the rock ramp base
- Steps would be constructed of boulders with a step height of 175mm
- Scour protection would be installed on the river bank
- Repair works would be carried out on the weir and a 30m length will be lowered by 150mm

3.12. The application is supported by a number of documents, these include the following;

- Planning Report – Mark Murphy Consultancy, Consulting Engineers
  - Appendix A – Design Drawings
  - Appendix B - Riverine Fish Barrier Assessment / Sniffer Report for Lower Tinnahinch Weir – Inland Fisheries Ireland
  - Appendix C – Letter of consent from landowner Irish Water (IW) allowing (WI) access to the site
  - Appendix D – Letter of support from the OPW
  - Appendix E – Hydraulic and Hydrologic Assessment – JBA Consulting
  - Appendix F - Natura Impact Statement - McCarthy Keville O’Sullivan Ltd. Planning and Environmental Consultants
    - Appendix 1 - Appropriate Assessment Screening Report
    - Appendix 2 - Construction Environmental Management Plan
    - Appendix 3 - Silt Curtain Specifications

- Appendix 4 - Fisheries Assessment of selected weir sites on the River Barrow, Co's. Carlow and Kilkenny – prepared by Triturus Environmental Services
  - Appendix I – Section 14 Authorisation
  - Appendix II – White-clawed crayfish licence
  - Appendix III – Raw fisheries data
- Appendix G – Underwater Archaeological Impact Assessment – ADCO Leading Maritime Archaeology
- Appendix H – Letter of support for the project from the Department of Housing, Planning, Community and Local Government (DoCHG)
- Appendix I – Topographical Survey Drawings
- Appendix J - Ecological Impact Assessment Report – McCarthy Keville O'Sullivan Ltd. Planning and Environmental Consultants

- 3.13. Further information was lodged 20/03/2020 and triggered revised public notices.
- 3.14. A response to issues raised in the request for further information are set out in a separate Report prepared by MKO Planning and Environmental Consultants.
- 3.15. Further details were submitted in relation to turbidity monitoring, upgrade of the existing river bank, nature of the existing track and extent of upgrade and working area, control of invasive species, biosecurity measures in relation to crayfish plague, and water framework status, and confirmation that temporary access to the site is proposed during construction from the west riverbank via the R705 Regional Road in County Kilkenny.
- 3.16. The application was accompanied by updated/revised reports to reflect additional assessments, and any changes to the project including increased level of detail provided in relation to reinstatement, fencing, mitigation, monitoring and responses to potential environmental emergency situations.
- 3.17. The revised documents provided with the response to further information include the following amended documents;
- Hydraulic and Hydrologic Assessment (H&HA) – Appendix E
  - Natura Impact Statement (NIS) – Appendix F



- Construction and Environmental Management Plan (CEMP) – Appendix 2
- Ecological Impact Assessment (EclA) – Appendix J

Applicants response to Third Party Submission from Ecofact - Item No. 4 of Further Information

- 3.18. The Report submitted by MKO Planning and Environmental Consultants sets out a response to issues raised in the third party submission by Dr. Will O'Connor, Ecofact, Environmental Consultants Ltd. under item 4 of the request for further information.
- 3.19. The report provides a justification for the approach taken by IFI and Waterways Ireland in the design and operation of the proposed development. In summary the main points refer to the following;
- Design of the rock ramp is suitable for Lamprey species and eels. The IFI are satisfied that the provision of lamprey tiles, bristle mats for eels and a rough mortar finish to encourage the growth of bryophytes will be effective in facilitating the migration of these species.
  - Design of the rock ramp is suitable for Twaite shad as it provides features for the shads to rest and navigate their way up through such a structure, and reference supporting scientific material with regard to shad passage and fish pass solutions for rock ramps.
  - Explanation of why turbulence is not an issue for fish species including cyprinids and shad, which includes the lowering of drop heights between pools to lower the degree of turbulence, and the staggering of spaces or gaps between the boulders which form the boundaries of the pools. The staggering of openings permits fish to enter each pool and have access to a range of locations or niches with differing velocities. Some of the niches will provide resting areas for fish prior to the ascent through the next pool opening.
  - Crayfish – Removed reference in EclA and NIS to there being no historical records from downstream of Graiguenamanagh. The rock ramp is suitable for Crayfish, and potential negative effects resulting from the potential for construction works to spread crayfish plague can be mitigated.

- Downstream migration - refers to juvenile life stages of sea and river lamprey, to juvenile salmon or smolts or migratory brown trout and to adult European eel. Reference to papers on the impacts of rock ramps on downstream migration which acknowledge that the timing of juvenile migration in lamprey is protracted and poorly documented.
- Habitat and Species Surveys:
  - Otter – Dedicated otter survey undertaken on the 5<sup>th</sup> September 2018. Otters were also surveyed during the dedicated fisheries surveys undertaken from the 8<sup>th</sup> to the 10<sup>th</sup> August 2018. Details of water levels and weather conditions during the surveys are now provided in Section 3.2 of the updated EclA. A further dedicated otter survey was undertaken on the 14<sup>th</sup> November 2019, and the EclA and NIS have been updated accordingly. No signs of otter activity were recorded but spraint was recorded. A pre-commencement otter survey will be undertaken and measures taken to ensure that the species is not affected,
  - Kingfisher – Survey for suitable nesting habitat for a range of species was carried out during the multidisciplinary walk-over surveys. A dedicated survey for suitable kingfisher nesting habitat was undertaken on the 14<sup>th</sup> November 2019, and no suitable habitat was recorded.
  - Woodlands – Details on the woodlands that surround the site of the proposed works and the access track are provided in the updated EclA and NIS.
  - Bats – No night time bat detector survey was undertaken, but bats were considered in the multi-disciplinary walkover survey and the potential for impact on these species is discussed and assessed in the EclA. There will be no loss of woodland or woodland edge habitats.
  - Freshwater Pearl Mussel – Refers to NPWS records for the species, which describes the current known populations as occurring outside the main River Barrow channel on tributaries. The site of the

proposed works provides a poor quality habitat for the species and the species was not seen during any of the site surveys undertaken.

- Lamprey – All the juvenile lamprey nursery habitat identified in the fisheries survey report (NIS Appendix 4) has been avoided by the proposed works, and there will be no direct loss or disturbance to this habitat which is located downstream. Mitigation measures include electro fishing and timing of the instream works.
- Timing of Works – EclA and CEMP clearly state that that no instream works will be undertaken between October 1<sup>st</sup> and June 30<sup>th</sup>. References in the NIS to the timing of instream works was incorrectly quoted and has been revised in the revised NIS.
- Site Compound – Revised site layout drawings indicate the location of the turning area for trucks and the location of a materials storage container and welfare facilities. The methodology to be followed and examples of environmental mitigation are also illustrated. There will be no significant storage of materials, fuel of equipment on the site and no requirement for site offices etc. with no risk of any polluting materials entering the river or requirement for an additional site compound.
- Justification as to why the canal is not included in the hydrological model – The Flood Risk Assessment was based on a conservative approach and applied all flow across the weir, within a range of flood events from the 10% exceedance event through to 1%AEP and no flood impacts were concluded upstream or downstream of the completed works.
- Definition of extent of rock armour – The updated site layout drawing indicates the proposed extent of rock armour associated with the rock ramp. This will extend for the length of the rock ramp and for approx. 3.5m upstream of the weir.
- Removal of Weir – Because of the potential for weirs to impact on the natural environment, specifically with regard to fish species, it is incumbent on public authorities to asses and ameliorate this impact. This submission includes works necessary to maintain the structural integrity of this weir and includes significant alteration to the weir to benefit ecology. Mitigation proposed has

been developed following consultation between Waterways Ireland, Inland Fisheries Ireland and the Department of Communications, Climate Action and Environment.

- Assessment of cumulative effect of all weirs – While a cumulative assessment of the proposed works was provided in the NIS, additional detail on this issue that takes account of other barriers on the River Barrow has been included in Section 5.2.2 of the NIS.
- Do Nothing Scenario – This scenario is a negative effect, when compared to the positive effect of the the proposed rock ramp. Section 5.1 of the EclA has been revised to reflect this.
- Archaeology – Further correspondence from the Underwater Archaeology Unit of the National Monuments Service states that there is no requirement to carry out an arachaeological assessment as the one undertaken by ADCO which accompanied the application was comprehensive, and subject to requirements that the recommendations contained therein be adhered to in full.

## 4.0 Planning Authority Decision

### 4.1. Carlow County Council Decision

4.1.1. The decision to **grant** permission is subject to 10 no. conditions including;

**Condition No.1** Plans and particulars.

**Condition No. 2** Implementation of mitigation measures identified in NIS, CEMP, EclA and Hydraulic and Hydrologic Assessment report.

**Condition No. 3** Environmental management requirements.

**Condition No. 4** Trees and hedgerow to be retained.

**Condition No. 5** Restriction on works relating to vegetation, in-river works and flood conditions.

**Condition No. 6** Underwater archaeological monitoring, implementation of recommendations in Underwater Archaeological Impact Assessment, recording,

requirements for removal of limestone material, and method statement to accompany licence application.

**Condition No. 7** Works not to impair the operation of existing land drainage.

**Condition No. 8 & 9** Use of existing entrances serving the site during construction phase requirements.

**Condition No. 10** Restriction on hours of construction.

## 4.2. Planning Authority Reports

**Planning Reports** (dated 12/09/2019 and 24/06/2020)

4.2.1. The Planners Report is the basis for the planning authority decision. The 1<sup>st</sup> Senior Executive Planners Report in summary states:

- Principle of the proposed development acceptable.
- Works to existing weir would contribute to its continued preservation of an important heritage feature on the river.
- Works would also ensure that the weir will continue to operate effectively as per its original intended use.
- Addition of the proposed rock ramp fish pass beside the weir could make this section of the river more accessible for fish to pass (migrate).
- Notes report from the PA Environment Section, submission from the DoCHG, PA Transportation Department and detailed Third Party submission from Ecofact.
- Recommends further information as follows;
  1. Detail in relation to the;
    - (a) Construction phase management of potential for discharges, detail of frequency and location of turbidity monitoring, level of turbidity considered significant for emergency actions and detail of emergency actions in the event of exceeding this level, to be identified in a revised CEMP.
    - (b) Nature of the existing track in terms of adjacent habitat, extent of the upgrade or the width of the fenced terrestrial working area.

2. Clarification of:
  - (a) Details for the selection of the Q50 flow for the design of proposed dam heights of 9.34mOD.
  - (b) Measures to be put in place where flows are in excess of the Q50 forecast.
  - (c) Measures to be implemented to control invasive species.
  - (d) Details on biosecurity measures required in relation to the crayfish plaque.
  - (e) Details on the current Water Framework Status baseline conditions.
  - (f) Amend content of the submitted NIS, CEMP, EclA and H&HA to take account of information required above.
3. Confirmation on proposed access, or whether it is also intended to access the site from the towpath to the north in County Carlow during the construction period, and clarification what if any alterations are required to existing entrances (including signage) to accommodate the proposed development.
4. Applicants comment on the content of the Third Party submission as part of the response to this further information request.'

4.2.2. The 2<sup>nd</sup> Planners Report notes;

- Content of revised NIS, CEMP, EclA, H&HA, and response from IFI relating to the Q50 flow for the design flows.
- Access arrangements to the site during construction.
- Response to issues raised in Third Party submission from Ecofact
- Further Third Party submissions from tourism and outdoor businesses in the area.
- Wider benefits that will result from the proposed development.

Recommends a grant of permission.

4.2.3. **Other Technical Reports**

**Environment Report:** 1<sup>st</sup> Report dated 12/08/2019 recommends further information in relation to the following;

1. Clarify details for the selection of the Q50 flow for the proposed dam height, and probability of the Q50 flow being exceeded during construction.
2. Measures to be put in place where flows in excess of the Q50 are forecast.
3. Measures to be implemented for invasive species control and biosecurity measures required in relation to crayfish plaque.
4. Current Water Framework Status baseline conditions for the River Barrow in the vicinity of the work area.

The NIS, CEMP, EclA and H&HA to be amended as required.

2<sup>nd</sup> Report dated 01/04/2020 recommends no objection subject to conditions. These include;

- Construction works shall be carried out in compliance with the environmental practice and mitigation measures outlined in Section 3 and Section 4.3 of the CEMP.
- Two fixed turbidity meters shall be placed upstream of construction works and two downstream. These shall be operated as outlined in Section 4.3 of the CEMP.
- Construction works shall be carried out in compliance with the environmental practice and mitigation measures outlined in the EclA.
- Mitigation measures outlined in the NIS shall be implemented.
- Temporary barriers shall be designed to cater for the Q50 flow and generally in accordance with the H&HA.

**Water Services:** Report dated 1/08/2019 recommends no objection.

**Transportation:** Report dated 30/08/2019 recommends no objection subject to requirements.

**Municipal District Office:** No report received.

**CFO:** Report recommends no objection.

#### 4.3. Prescribed Bodies

**Irish Water:** Report dated 01/08/2019 recommends no objection.

**DAU, Department of Culture, Heritage, and the Gaeltacht (DoCHG): 1<sup>st</sup> Report** dated 28/08/2019 recommends that;

- An Underwater Archaeological Impact Assessment (UAIA) be carried out in advance, under licence and undertaken by a suitably qualified archaeologist to assess the potential for negative impacts by the proposed works to the weir and within the riverine environment.
- Insufficient detail in relation to the construction phase management of potential discharges, such as the detail of frequency and location of turbidity monitoring, the level of turbidity considered significant for emergency actions and the detail of emergency actions in the event of exceeding this level. These details should be clearly identified in a revised CEMP and/or conditions of planning.
- Insufficient detail on the nature of the existing track to the river bank in terms of adjacent habitat, the extent of the upgrade or the width of the fenced terrestrial working area. The PA is requested to consider the specific location and any requirement to set conditions pertaining to the track upgrade.
- The Department also requests, where possible, any cutting back of vegetation along the track should take place outside of the bird breeding season (1<sup>st</sup> March to 31<sup>st</sup> August).

**2<sup>nd</sup> Report** dated 01/04/2020 recommends no objection subject to requirements.

Email dated 16/06/2020 no further comments.

**Kilkenny County Council:** Report dated 21/08/2019 notes concurrent application PA Reg.Ref.19/507 decision pending.

The application was also referred to Inland Fisheries Ireland, An Taisce, The Heritage Council, Office of Public Works, and Wicklow County Council, but no reports were received.

#### 4.4. **Third Party Observations**

4.4.1. One Third Party submission was received by the planning authority from;

- Dr. Will O'Connor, Ecofact Environmental Consultants Ltd.



4.4.2. The detailed submission was accompanied by a draft NIS dated November 2017 relating to proposed repairs to Lower Tinnahinch weir/sluiice and new fish pass on the River Barrow, and photographs. Issues raised in the submission can be summarised as follows;

#### Rock Ramp Design

- Original design flaws identified as part of the preparation of earlier draft NIS for the applicants
- Concerns regarding rock ramp designs which are salmonid passes and do not incorporate features which can be used by lampreys and eels
- Similar rock ramp designs at other locations
- Steps used in rock ramp designs require fish to jump. Fish species that cannot jump will not be able to use it
- Well-designed rock ramps allow passage for all fish species and current proposal will not cater for weaker swimming species and does not conform to a standard rock ramp
- Lamprey tiles do not work, and their use at other weir locations in Ireland have been discredited. Lamprey tiles and eel brushes not shown on submitted drawings.
- Current design will have to be changed to make fish pass more accessible for fish species other than salmonids

#### NIS Content Scope and Accuracy

- NIS misquotes and relies on a discredited study
- Proposed fish pass will have very high levels of power dissipation (turbulence) in excess of levels recommended for certain fish species has not been addressed in the NIS
- Statement regarding historical records for crayfish in NIS incorrect
- Restoring runs for Shad in the River Barrow needs to be a priority, which are a key target species and QI of the SAC

- Serious omission in the NIS that downstream fish pass has not been assessed

#### Evidence Based Surveys

- No evidence that specific Otter survey was undertaken
- No evidence that species specific survey for Kingfishers was undertaken
- Statement that no woodland will be cleared is not credible
- No bat survey was undertaken
- No evidence presented for dismissal of potential for Freshwater Pearl Mussels

#### Construction Method Statement /Compound

- No method statement for electro fishing provided
- Serious concern that there is no provision for a site compound, despite the scale of the works proposed.

#### Flood Event

- Hydrology model has excluded the canal from the assessment, and therefore its role during a flood event is unknown

#### Screening for EIA

- No EIA Screening was completed

4.4.3. Further submissions were received by the planning authority following receipt of further information, from the following parties;

- Canoeing Ireland: C/o Ciaran Maguire (Events and Development Manager), Irish Sports HQ.
- Go with the Flow - River Adventures: C/o David (Charlie) Horan (owner), Kilcoltrim, Borris. Includes link to a petition signed by 1,067 persons on [www.change.org/p/canoeists-canoe-kayak-access-on-barrow-river](http://www.change.org/p/canoeists-canoe-kayak-access-on-barrow-river).
- Paddlers Canoe Club: C/o Donnacha Brennan (Chairperson), Dublin Road, Thomastown, Co. Kilkenny
- GoPaddle.ie: C/o Susan Doyle, Rickestown, Rathvilly, Co. Carlow

- Patrick McCormack: 6 Hotel Street, Tinnahinch, Graiguenamanagh, Co. Carlow
- Philip McCormack: 7 The Sycamores, Dunmore Road, Waterford

Issues raised can be summarised as follows;

#### Safety Risk

- No consideration given to the safe passage of canoes or kayaks
- Angles and placement of walls may result in canoes and kayaks capsizing or possible entrapment
- Rock ramps are not very navigable in kayaks
- Alternative route around or through the rock ramp recommended
- Proposed rock/boulder walls will pose serious threat to paddlers at all water levels
- Potential for canoe/kayak pinning on exposed boulders/fixtures
- Potential for entrapment of body parts (mainly foot)
- Building materials for development would pose a health and safety risk
- Cannot ascertain from the plans if the structure will be safe for members of Canoeing Ireland to use
- No evidence of a safety audit
- Structure of this nature unsafe for canoeist's without proper safety checks or analysis should not proceed

#### Important Water Skills Training Site

- Well used educational site for introducing novice paddlers to white water skills and will be made unusable by the proposed alteration to natural rapids which lie downstream of the weir
- A site of national importance to develop intermediate to advanced canoe and kayak instructors will no longer be useable
- Site used daily by club based recreational and competitive paddlers will no longer be safe

- Existing weirs on the Barrow are all currently navigable by kayaks
- Appears that there may not have been any consideration for important river users in the proposed development
- Lack of consultation with Canoeing Ireland, the national governing body for the sport
- This is an important stretch of the river for sport and tourism
- One of the most used sections of the river in the county

#### Tourism/Outdoor Businesses

- Site that offers significant value to the local economy through tourism will no longer be usable
- Significant negative impact on small private outdoor businesses

#### Access

- Reference to provisions of the Inland Navigation Act 1731 regarding access requirements along rivers

#### Ecology

- Impact on Freshwater Pearl Mussel
- Impact on the SAC

4.4.4. Objections to the proposed development received by the planning authority have been forwarded to the Board and are on file for its information as summarised in Section 4.4.3 above.

## **5.0 Planning History**

5.1. This planning application is somewhat unusual in that the site area spans two planning administrative areas, namely Carlow County Council and Kilkenny County Council. Reg. Ref. 19/289 (CCC) and Reg. Ref. 19/507 (KCC) were submitted concurrently to the two planning authorities on 22/07/2019.

*Kilkenny County Council*

**PA Reg.Ref.19/507:** Permission **granted** 08/06/2020 for remedial repair and strengthening work to existing weir which will incorporate a rock ramp fish pass in front of the existing weir. The fish pass will require the lowering of a section of the existing weir. A Natura Impact Statement (NIS) was submitted with the application for Waterways Ireland.

The decision to **grant** permission is subject to 11 no. conditions including;

**Condition No. 1** Plans and particulars.

**Condition No. 2** Health and safety measures be put in place prior to in-river works to avoid an danger to vulnerable river users.

**Condition No. 3 & 8** Implementation of protection measures, mitigation and monitoring as set out in the CEMP, EclA, and NIS.

**Condition No. 4** Restriction on works relating to cutting back of vegetation, in-river works and flood conditions.

**Condition No. 5** Ecological Clerk of Works requirements.

**Condition No. 6** Construction phase requirements.

**Condition No. 7** Waste Management Plan requirements.

**Condition No. 9 & 10** Roads Maintenance and Traffic Management Plan and entrance area requirements.

**Condition No. 11** Underwater archaeological monitoring, implementation of recommendations in UAIA, recording, requirements for removal of limestone material, and method statement to accompany licence application.

## 6.0 Legislative and Policy Context

6.1. **The EU Habitats Directive (92/43/EEC):** This Directive deals with the Conservation of Natural Habitats and of Wild Fauna and Flora throughout the European Union. Article 6(3) and 6(4) require an appropriate assessment of the likely significant effects of a proposed development on its own and in combination with other plans and projects which may have an effect on a European Site (SAC or SPA).

6.2. **European Communities (Birds and Natural Habitats) Regulations 2011:** These Regulations consolidate the European Communities (Natural Habitats) Regulations 1997 to 2005 and the European Communities (Birds and Natural Habitats) (Control

of Recreational Activities) Regulations 2010, as well as addressing transposition failures identified in CJEU judgements. The Regulations in particular require in Reg 42(21) that where an appropriate assessment has already been carried out by a 'first' public authority for the same project (under a separate code of legislation) then a 'second' public authority considering that project for appropriate assessment under its own code of legislation is required to take account of the appropriate assessment of the first authority.

6.3. **National nature conservation designations:** The Department of Culture, Heritage and the Gaeltacht and the National Parks and Wildlife Service are responsible for the designation of conservation sites throughout the country. The three main types of designation are Natural Heritage Areas (NHA), Special Areas of Conservation (SACs) and Special Protection Areas (SPAs) and the latter two form part of the European Natura 2000 Network.

6.4. European sites located in proximity to the subject site include:

- River Barrow and River Nore SAC (Site Code: 002162)
- Blackstairs Mountains SAC (Site Code: 000770)
- Slaney River Valley SAC (Site Code: 000781)
- Thomastown Quarry SAC (Site Code: 002252)
- River Nore SPA (Site Code: 004233)

6.5. **Carlow County Development Plan 2015-2021**

The applicable Development Plan is the Carlow County Development Plan 2015-2021.

**Chapter 9** refers to Natural and Built Heritage

**Chapter 10** refers to Environmental Management, Infrastructure and Water Services

**Chapter 11** refers to Design and Development Standards

6.6. **The Natura Impact Statement**

6.6.1. Waterways Ireland's application for the proposed development was accompanied by a Natura Impact Statement (NIS) which scientifically examined the proposed

development and the European sites. The NIS identified and characterised the possible implications of the proposed development on the European sites, in view of the site's conservation objectives, and provided information to enable the Board to carry out an appropriate assessment of the proposed works.

- 6.6.2. The NIS describes the elements of the project (alone or in combination with other projects and plans) that are likely to give rise to significant effects on the European sites. Potentially significant impacts are set out, as well as an assessment of their effect and the mitigation measures that are to be introduced to avoid, reduce or remedy the adverse effects on the integrity of the European sites.
- 6.6.3. The conclusion reached in the revised NIS submitted by way of further information is that subject to best practice and the full implementation of the recommended mitigation measures, that the proposed development either on its own, or, in combination with other plans or projects would not result in significant adverse effects on the integrity of the designated site and the qualifying interests.

## **7.0 The Appeal**

### **7.1. Grounds of Appeal**

7.1.1. The Third Party appeal against the decision to grant permission by the planning authority has been lodged by Canoeing Ireland C/o Ciaran Maguire, Events and Development Manager on behalf of three local companies including;

- Pure Adventure: Patrick McCormack, 6 Hotel Street, Tinnahinch, Graiguenamanagh
- Go with the Flow: Charlie Horan, Kilcoltrim, Borris, Co. Carlow
- GoPaddle.ie: Susan Doyle, Ricketstown, Rathvilly, Co. Carlow

7.1.2. The appeal was accompanied by the submissions lodged with the Planning Authority, see section 4.4.3 of this report for issues raised in submissions raised, following the response to further information.

The main grounds can be summarised as follows;

- Safety concerns – New fish pass which is the first of its type on the Barrow will make the Tinnahinch weir un-runnable in open boats. Urge the Board to take a close look at the decision of the PA, Carlow County Council.

## 7.2. Applicant Response

None.

## 7.3. Planning Authority Response

The planning authority confirmed its decision and noted the wider benefits that will result from the proposed development. These include;

- The weir is part of the architectural and industrial heritage of the river corridor and an integral part of the Barrow navigation system.
- The weir functions to provide and maintain a sufficiently deep and navigable river channel for boats upstream of its location and along the canal-by-pass.
- The weir is in disrepair, has been subject to erosion and has large sections of stone missing.
- The weir has been identified by IFI as a significant obstacle to the free movement of fish.
- Waterways Ireland are the statutory authority charged with managing the River Barrow for navigation purposes.
- The proposed development will strengthen and repair the weir, ensuring its continued functionality and protection/conservation into the future.
- The proposed development, through the provision of a rock ramp, will contribute to the protection of endemic fish species by accommodating their passage upstream and downstream of the weir.
- The protection of fish species is in the interest of the biodiversity of the river and its designation as a SAC.
- The design of the rock ramp has been informed by IFI, the state agency responsible for the conservation, protection, and management of inland fisheries.



- Environmental impacts, including potential impacts on the SAC, have been assessed by the Council's Environment Section and the Department of Culture Heritage and the Gaeltacht. The Environment Section recommend a grant of permission subject to conditions, and the Department has no further comments on the further information received.
- The proposed rock ramp/fish pass will not extend across the entire width of the weir.
- The site represents one small area of the overall River Barrow channel.

#### **7.4. Observations**

None.

### **8.0 Planning Assessment**

8.1. The main issues in this appeal are those raised in the grounds of appeal and I am satisfied that no other substantive issues arise. Appropriate Assessment also needs to be considered. The issues are addressed under the following headings:

- Principle of the proposed development
- Design and Safety concerns
- Other Matters

I draw the Boards attention to a concurrent application for works to the western section of the weir but within the jurisdiction of the adjoining County Kilkenny. The application approved by Kilkenny County Council in June 2020 and was not appealed to the Board. The application documents refer to the overall project.

#### **8.2. Principle of the proposed development**

- 8.2.1. The existing Tinnahinch Weir is located along the River Barrow, spanning the width of the river from east to west.
- 8.2.2. Waterways Ireland (WI) have cited concerns with the current condition of the weir, which is in a state of disrepair, with sections of the existing masonry weir having

collapsed and in danger of further collapse. WI have also indicated their reliance on the weir to maintain a sufficiently deep navigable channel for boats upstream of the weir and along the associated canal to the east. Inland Fisheries Ireland is concerned with the negative impact of the existing weir in terms of fish stock management and diversity on the second biggest river in Ireland.

- 8.2.3. The purpose of the proposed development is to strengthen and restore the existing weir and to provide a new facility allowing the passage of endemic fish upstream and downstream of the existing weir obstacle, which will encourage the recovery of fish stock and the enhancement of biological diversity in the River Barrow, which is contained within the Special Area of Conservation SAC 002299.
- 8.2.4. As the overall development proposal spans the administrative areas of Carlow and Kilkenny County Council planning applications were made concurrently to both planning authorities. The proposed works extend upstream and downstream on both sides of the River. Neither bank is zoned in either County Development Plans.
- 8.2.5. The proposed development is acceptable in principle by both Carlow and Kilkenny County Council subject to compliance with appropriate conditions.
- 8.2.6. I am satisfied, therefore, that the proposed development is acceptable in principle.

### **8.3. Design Options and Safety Concerns**

- 8.3.1. The Third Party appeal by Canoeing Ireland on behalf of three local outdoor sport/recreational, and hospitality/tourism businesses, raised concern in relation to the nature/design of the proposed fish pass which it is asserted is the first of its type on the River Barrow. The appellants also contend that the proposed works will make the Tinnahinch weir un-runnable in open boats.
- 8.3.2. Third Party submissions to the PA received on foot of the further information request note that this section of the River Barrow along the weir is cited as being of national importance to develop intermediate to advanced canoe and kayak instructors, as well as introducing novice paddlers to white water skills. It is asserted that the rock ramps are not very navigable and that this section of river will no longer be runnable as a result of the proposed works.

- 8.3.3. It is also asserted that the site which is used daily by club based and recreational and competitive paddlers will no longer be safe. In particular it is noted that the proposed rock/boulder walls would pose a serious threat to paddlers, and exposed boulders/fixtures may result in canoes and kayaks capsizing or possible entrapment.
- 8.3.4. The PA while noting the details of these third party submissions refer to the wider ecological benefits of the proposal. The PA also note that the proposed rock ramp/fish pass will not extend across the entire width of the weir and that the site represents one small area of the overall River Barrow channel.
- 8.3.5. The appeal lodged by Canoeing Ireland is accompanied by a copy of the previous submission to the PA. The PA in response to the appeal further notes that the weir functions to provide and maintain a sufficiently deep and navigable river channel for boats upstream of its location and along the canal by-pass. I also note that WI have not commented on the grounds of appeal.

#### *Design Options*

- 8.3.6. The Planning Report prepared by Mark Murphy Consultancy Ltd lodged with the application. details a number of engineering solutions, which have been considered in addressing the structural condition of the weir and the fish passage requirements of the weir.
- 8.3.7. The solutions considered various strengthening methods and include the construction of 'in channel' fish pass structures downstream of the weir obstacle, as well as solutions involving the construction of 'off-channel' facilities, such as a by-pass channel or river diversion around the weir.
- 8.3.8. The options have been evaluated in terms of best practice, constructability, durability, environmental impact, aesthetics and future maintenance. Option B, which is an 'in channel' rock ramp fish pass emerged as the preferred option.
- 8.3.9. The preferred option for remedial works to the weir is a combination of masonry repair and repointing coupled with cementitious grouting to the core of the weir. The preferred option for the fish pass at the weir is a provision of a partial width rock ramp type pass construction downstream of the existing weir.

- 8.3.10. The Planning Report notes that ‘the final design has incorporated lessons learned from other recent similar projects, and represents the best, most up to date approach to weir remedial works and fish pass design in Ireland.’
- 8.3.11. I have had regard to the rationale for the proposed works, and alternative options considered. I am satisfied that consideration of alternative options are comprehensive. I am satisfied that the impact on navigation was identified in each option assessed.
- 8.3.12. The PA noted the report of the Third Party submission from Dr. Will O’Connor Ecofact Environmental Consultants Ltd. and requested that the applicant respond to items raised by way of further information. MKO Planning and Environmental Consultants submitted a Report in response to issues raised by Dr. Will O’Connor Ecofact Environmental Consultants Ltd.
- 8.3.13. The report submitted by Tritus Environmental Services relates to the assessment of three selected weir sites on the River Barrow in both Co’s Carlow and Kilkenny. This report includes a survey to assess the habitat suitability and presence/absence of lamprey ammocoetes in soft littoral areas in the vicinity of the weirs and also to provide additional data on salmonids and general fish stock assemblages. The report also includes a dedicated, white-clawed crayfish survey undertaken under licence.
- 8.3.14. The MKO Planning and Environmental report indicates that Waterways Ireland is in partnership with IFI designing rock ramps at each of the three weir sites with input from the Department of Communications, Climate Action and Environment (DCCA) to improve ecological connectivity within the Barrow system for lamprey and other migrating fish species, whilst at the same time facilitating continues watercraft navigation. The results of the surveys has been considered in the context of the proposed weir repair and upgrade works, and mitigation measures to alleviate or minimise potential impacts to lamprey and salmonoid habitat in the vicinity of the three weirs.
- 8.3.15. I am satisfied, that the applicant has demonstrated that a number of alternative designs were considered and that the proposed design is considered the most appropriate and represents best practice.

*Navigation*

- 8.3.16. In terms of traffic on the River Barrow, it is noted in the Planning Report that *'there may be limited traffic consisting of canoeists, walkers and anglers using the river and the provision for the safe accommodation of this traffic will be provided by signage and buoys as part of the planning of the construction process. This accommodation should not present significant difficulties.'*
- 8.3.17. I have examined the Design details of the proposed fish pass as presented on the design Drawings in Appendix A of the Planning Report.
- 8.3.18. I accept that the proposed would appear to alter the navigability of the existing River Barrow, and also concur with the appellants that it is unclear how navigable the river will be for open boat users on completion of the works.
- 8.3.19. However, the proposed fish ramp does not extend across the entire width of the river, allowing an approx. 10m wide separation to the riverbank/island to the east. I also note the location and proximity of the adjoining canal to the east/northeast which offers an alternative navigable route.

#### *Safety*

- 8.3.20. I note the generous width of the River Barrow at this location which is approx. 103m wide. The existing fish pass located approx. 30m from the west bank provides a approx. 2m wide notch forming a white water passage for paddlers negotiating the existing weir travelling down river.
- 8.3.21. I accept that the in river works downstream and scour protection proposed to the river bank do pose potential obstacles for small boat users. It is proposed to place rock armour at the base of the existing weir and strengthen the riverbank with scour protection alongside the rock ramp. The proposed rock ramp would include an 8m long scour protection apron at the downstream end. The 9 no. rock ramp steps would be constructed of angular block like shape boulders. The west side riverbank would be strengthened with a rock armour scour protection alongside the full length approx. 73m of the proposed rock ramp.
- 8.3.22. I note that the proposed development is not accompanied by a safety audit, but that the decision of Kilkenny County Council includes a condition that health and safety measures be put in place prior to the in-river works to avoid any danger to vulnerable

road users. If the Board are minded to grant permission a similar suitably worded condition could be attached.

### *Conclusion*

- 8.3.23. While I accept that it would be preferable if the works did not impact on existing open boat users, I also accept that there are many competing factors associated with the proposed works to the existing weir and new fish pass, including the preservation and protection of the existing weir, the need to protect migratory fish and the need to cater for the use of the river by canoes and kayaks, and the local economy through tourism and water skills training related outdoor businesses which rely on the use of the river by visitors.
- 8.3.24. I have regard to the proximity of the appeal site to the town of Graiguenmanagh, and ease of access to the river and paddling related businesses which contribute to the tourism industry in the area.
- 8.3.25. I consider that the potential loss of a relatively short section of the river channel to some water based activities, particularly when the adjoining canal provides an alternative route is an acceptable compromise in light of the advantages associated with the enhanced riverine connectivity which will improve the passage of fish upstream and downstream of the weir.
- 8.3.26. I am satisfied that the applicant Waterways Ireland, a prescribed / state body has consulted with and has the support of the relevant prescribed bodies including the IFI, DAU, IW and DCCAIE in reaching a design solution to carry out the works as efficiently as possible to minimise disturbance. In particular, I note the letter of support lodged with the application, from the DoHPC&LG which in noting the design of the fish pass, (which will ensure the free run or migration of all fish at all periods of the year) states that it would fully meet the requirements for approval under Section 115(2) of the Fisheries Act 1959.
- 8.3.27. I am satisfied, therefore, that permission should not be refused on the basis of design or safety.

## **8.4. Other Matters**

### *Archaeological Heritage*

- 8.4.1. An Underwater Archaeological Impact Assessment (UAIA) prepared by ADCO Leading Maritime Archaeology was submitted with the application as Appendix G of the Planning Report.
- 8.4.2. The weir is not a recorded archaeological monument, but the report notes that it 'lies within a historically rich landscape, highlighted by the extensive adaptation of the River Barrow for industrial use in the late eighteenth-and early/mid nineteenth century. Lower Tinnahinch Weir and its adjacent bypass canal form tangible reminders of this industrial past'.
- 8.4.3. The report recommends that archaeological monitoring of ground/riverbed disturbances during construction be undertaken, and in particular during the construction of the new fish pass, as the removal of masonry from the weir structure is required to facilitate this component of the proposed work.
- 8.4.4. The report details the proposed in-water works and concludes that the proposed works would result in a number of slight and moderate negative impacts arising from the insertion of the rock-ramp and new fish pass and also slight positive impacts as a result of the repair and strengthening works to the existing weir structure.
- 8.4.5. I note that the DoCHG has raised no issues regarding the recommendations made in the UAIA Report subject to its requirements regarding underwater archaeological impact assessment.

#### *Hydrology and Flooding*

- 8.4.6. A detailed Hydraulic and Hydrologic Assessment (H&HA) prepared in accordance with the Planning System and Flood Risk Management Guidelines (PSFRMG) was submitted with the application as Appendix E of the Planning Report.
- 8.4.7. JBA Consulting were commissioned by the Mark Murphy Consultancy on behalf of the IFI to assess possible impacts on the existing River Barrow flow regime during construction, and after the completion of the fish pass.
- 8.4.8. It concluded that 'there is no measurable change in the flood risk to the Tinnahinch Weir during flood events', and 'no measurable change to the flow regime of the River Barrow at Tinnahinch Weir'.
- 8.4.9. The report also concludes that 'during the construction phase, there is a significant potential increase in water surface level upstream of the existing weir during flood

events. A partial width barrier height of 9.34mOD would be suitable for normal flow conditions (Q<sub>50</sub>).

- 8.4.10. I note the technical report from the Environment Section of the PA which queried the selection of the Q50 flow for the proposed dam height and measures to be put in place where flows in excess of the Q50 are forecast. The current Water Framework Status baseline conditions for the River Barrow in the vicinity of the work area were also sought by way of further information.
- 8.4.11. I note the response to the request for further information, and report from the Environment Section which had no objections.
- 8.4.12. I note letters of consent, on file, from DoHPC&LG, OPW and IW to WI to the making of the application. It is my opinion while the subject appeal relates solely to PA Reg.Ref.19/289 pertaining to the portion of the development located within Carlow County Council administrative area considerable weight must be given to the decision to Grant Planning Permission, on 22<sup>nd</sup> July 2019, by Kilkenny County Council (PA Reg,Ref.19/507) for the portion of the development within their administrative boundary, see section 5.0 'Planning History' of this report above.
- 8.4.13. I note that the proposed works are to be confined to the months of July to September, with a recommendation that works commence in early July, as the lowest average flow and lowest recorded peak flow are recorded in July.
- 8.4.14. I note the response to the further information request in relation to the current Water Framework Status baseline conditions for the River Barrow which is included in the revised EclA. The Water Framework Directive River Waterbody Status and the weir was assigned as poor status.

#### *Biodiversity*

- 8.4.15. This section should be read in conjunction with section 9 AA below. The Ecological Report submitted indicates the impacts during construction and that there would be no significant loss of floral habitat, and that the weir and rock ramp boulders will revegetate post construction.
- 8.4.16. The report also notes that the development footprint will result in the loss of a small area of eroding bankside habitat no greater than 1-3m in width, and this will be replaced with rock-armour stone in order to prevent future scouring of the bank.



- 8.4.17. The existing grassy access lane which runs parallel to the river will be upgraded to allow materials to be transported to the proposed development site. This will involve the temporary loss of vegetation on the lane and this will be reinstated on completion of the works.
- 8.4.18. In terms of faunal habitat the report notes that while no otter holts were recorded during the ecological surveys undertaken, a pre-commencement otter survey will be undertaken.
- 8.4.19. Ecological elements that need to be considered during the construction works and mitigation measures are set out in the Ecology Report, include providing a dam around the works area, which will be split into two stages to maintain flow through the channel. The enclosed area would be electro fished by IFI and then dewatered using a silt buster, which allow works to be undertaken in the dry. Other measures in temporarily fencing off the bankside work area.
- 8.4.20. The Ecological Report submitted indicates and that earthworks along the river bank where scour protection in the form of rock armour is to be installed has the potential to cause pollution to the surrounding environment. There is the potential of emissions to the surface water causing siltation and pollution of fisheries spawning and habitat immediately downstream of the proposed work area .
- 8.4.21. I note that the report recommends a silt curtain and oil boom be installed on the outer side of the dam to prevent sedimentation and hydrocarbons entering the watercourse during excavation. Automated turbidity meters will be installed upstream and downstream of the proposed works area to monitor suspended solids during the construction phase.
- 8.4.22. Provisions to prevent the spread of invasive species such as Himalayan balsam, and Crayfish Plague, and measures to deal with hydrocarbon spills and proposals to enter all machinery from the western bank are noted.
- 8.4.23. I note that the report of the NPWS and the Environment Section of the PA which requested details of measures to be implemented in relation to turbidity monitoring, for invasive species and biosecurity measures required in relation to crayfish plaque, and the extent of the works to the riverbank.

- 8.4.24. Both were subsequently satisfied that the mitigation measures outlined in the amended EclA and CEMP during the construction phase were acceptable. The further details submitted including the Habitat Map, construction methodology layout and amendments to the EclA and NIS were considered acceptable.
- 8.4.25. I note the reports on file from the DAU, DoHPC&LG indicating no objection to the proposed development subject to conditions pertaining to the upgrade of the existing track to the river bank and width of the fenced terrestrial working area.
- 8.4.26. Overall given the nature and scale of the proposal I do not consider that permission would have a significant impact on the River Barrow and the protected species it supports provided mitigation measures are adhered to. Undertaking in stream works during summer months during low flow will minimise any localised impact the proposed works may have on the aquatic species.

## 9.0 **Appropriate Assessment**

9.1.1. The requirements of Article 6(3) as related to appropriate assessment of a project considered under 177AE of the Planning and Development Act 2010 (as amended) are considered fully in this section. The areas addressed in this section are as follows:

- Compliance with Article 6(3) of the EU Habitats Directive
- Screening the need for Appropriate Assessment
- The Natura Impact Statement
- Appropriate Assessment

### **Compliance with Articles 6(3) of the EU Habitats Directive**

9.1.2. The Habitats Directive deals with the Conservation of Natural Habitats and of Wild Fauna and Flora throughout the European Union. Article 6(3) of this Directive requires that 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. The competent authority must be satisfied that the proposal will not adversely affect the integrity of the European site.

The proposed development is not directly connected to or necessary to the management of any European site and therefore is subject to the provisions of Article 6(3).

### **Screening the need for Appropriate Assessment**

- 9.1.3. The first test of Article 6(3) is to establish if the proposed development could result in likely significant effects to a European site. This is considered Stage 1 of the appropriate assessment process i.e. screening. The screening stage is intended to be a preliminary examination. If the possibility of significant effects cannot be excluded on the basis of objective information, without extensive investigation or the application of mitigation, a plan or project should be considered to have a likely significant effect and Appropriate Assessment carried out.
- 9.1.4. Having regard to the information and submissions available, the nature, size and location of the proposed development and its likely direct, indirect and cumulative effects, the source pathway receptor principle and sensitivities of the ecological receptors, the following European sites are considered relevant to include for the purposes of *initial* screening for the requirement for appropriate assessment on the basis of likely significant effects.
- 9.1.5. European sites considered for (Stage 1) by the applicant included the following:
1. River Barrow and River Nore SAC (Site Code: 002162)
  2. Blackstairs Mountains SAC (Site Code: 000770)
  3. Slaney River Valley SAC (Site Code: 000781)
  4. Thomastown Quarry SAC (Site Code: 002252)
  5. River Nore SPA (Site Code: 004233)
- 9.1.6. The appeal site is located within the River Barrow which is part of the River Barrow and River Nore SAC. The proposed works require in stream excavations and upgrade works to the existing weir by constructing a rock-ramp to improve fish migration through the River Barrow at this location.

- 9.1.7. Conservation objectives for the River Barrow and River Nore SAC are to maintain or restore the favourable conservation condition of a number of fish species and habitats.
- 9.1.8. While the proposal is designed to improve the conservation status of fish species within the River Barrow, there are aspects of the proposal that required further detailed assessment.
- 9.1.9. The works alone could result in impacts that may cause significant effects to the SAC in view of the conservation objectives for protected freshwater species and habitats in particular if not managed correctly.
- 9.1.10. The other four European sites considered in the AA Screening Report were ruled out in terms of any potential significant effects arising from the proposed works due to distance and lack of any meaningful ecological connections.
- 9.1.11. Two of the sites are of conservation interest for terrestrial/wetland habitats (wet heaths, dry heaths, petrifying springs with tufa formation) with no potential to be impacted either directly/indirectly by the proposed works. These sites include:
- Blackstairs Mountains SAC, and
  - Thomastown Quarry SAC.
- 9.1.12. With regard to the other two sites the potential for effects was excluded on the basis of lack of connectivity (hydrological or terrestrial) between the proposed works and the protected site. These sites include:
- The Slaney River SAC, and
  - River Nore SPA.
- 9.1.13. All four sites are located a considerable distance from the appeal site and given that the proposed works are small in nature and occur either down-gradient of other European Sites or within a separate water catchment the potential for effects can be excluded.
- 9.1.14. Based on my examination of the applicants AA screening report and supporting information, the NPWS website, aerial and satellite imagery, the scale of the proposed development and likely effects, and functional relationship between the proposed works and the conservation objectives of the River Barrow and River Nore SAC, and taken in conjunction with my assessment of the subject site and the

surrounding area, I would conclude that Appropriate Assessment is required for the proposed works in relation to likely significant effects on the River Barrow and River Nore SAC (002162). This conclusion is in line with that of the Applicant. The other European sites referred to are screened out for the reasons outlined above.

9.1.15. It is, therefore, reasonable to conclude, on the basis of the information on the file, which I consider adequate in order to issue a screening determination, that the proposed development, individually or in combination with other plans or projects, could result in significant effects on the River Barrow and River Nore SAC in view of the sites conservation objectives and Appropriate Assessment of the proposal is required.

### **The Natura Impact Statement**

9.1.16. The application was accompanied by an NIS which described the proposed development, the project site and the surrounding area. The NIS outlined the methodology used for identifying the impacts associated with the proposed alteration of the weir and assessing the potential for adverse effects on the individual special conservation interest habitats and species within the River Barrow and River Nore SAC.

9.1.17. Mitigation measures were detailed, and the proposal assessed for any in-combination effects with other plans and projects in terms of any residual effects on the European sites and their conservation objectives.

9.1.18. The NIS was informed by the following studies, surveys and consultations:

- A desk top study
- Ecological baseline survey included site visit undertaken 5<sup>th</sup> September 2018
- Fisheries and crayfish surveys undertaken between 8<sup>th</sup> -10<sup>th</sup> August 2018
- Otter survey and a Kingfisher nesting habitat survey 14<sup>th</sup> November 2019
- Standard habitat classifications within/adjoining works area (Fossit 2000)
- Consultations with IFI

9.1.19. A revised NIS, CEMP, EclA and H&HA was submitted to the PA in response to issues raised in the Third Party submission by Dr. Will O'Connor Ecofact Environmental Consultants Ltd. as outlined in section 4.4.2 above, and the Environment Section of the PA as outlined in section 4.2.3.

- 9.1.20. The NIS report concluded that, subject to the implementation of best practice and the recommended mitigation measures, the proposed development would not individually or in combination with other plans or projects adversely affect the integrity of any European site.
- 9.1.21. Having reviewed the NIS and the supporting documentation, I am satisfied that it provides adequate information in respect of the baseline conditions, clearly identifies the potential impacts, and uses best scientific information and knowledge. Details of mitigation measures are provided in the CEMP.
- 9.1.22. I am satisfied that the issues raised by the Third Party and Environment Section of the PA have been dealt with satisfactorily in the revised NIS and accompanying reports.
- 9.1.23. I am satisfied that the information is sufficient to allow for appropriate assessment of the proposed development (see further analysis below).

### Relevant European sites

- 9.1.24. Details of the 1 no. site brought forward for Appropriate Assessment together with the Qualifying Interests and summary of conservation objectives and potential for adverse effects are set out below. A full description of the site and the Conservation Objectives and Qualifying Interests/Special Conservation Interests, including relevant attributes and targets for the site, is set out in Section 3.3 of the NIS.

Table 1

<b>Site Name: River Barrow and River Nore SAC (002162)</b> <b>Conservation Objectives to maintain (M) or restore (R) favourable conservation status</b> <b>Qualifying interests which require detailed assessment shown in bold</b>	
<b>Qualifying Interests (Version 1,2011)</b>	<b>Potential for adverse effects</b>
<b>Estuaries [1130] (M)</b>	<b>Indirect: construction related</b>
Mudflats and sandflats not covered by seawater at low tide [1140] (M)	No effect
Reefs [1170] (M)	No effect
Salicornia and other annuals colonising mud and sand [1310] (M)	No effect
Atlantic salt meadows [1330] (R)	No effect

Mediterranean salt meadows [1410] (R)	No effect
<b>Water courses of plain to montane levels with the Ranunculus fluitans and Callitriche-Batrachion vegetation [3260] (M)</b>	<b>Indirect: construction related</b>
European dry heath [4030] (M)	No effect
<b>Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels [6430] (M)</b>	<b>Indirect: construction related</b>
Petrifying springs with tufa formation [7220] * (M)	No effect
Old sessile oak woods with Ilex and Blechnum in the British Isles [91A0] (R)	No effect
Alluvial forests with Alnus glutinosa and Fraxinus excelsior [91E0]* (R)	No effect
<b>Desmoulin's Whorl Snail [1016] (M)</b> <b>Freshwater Pearl Mussel [1029] (Undefined)</b> <b>White-clawed Crayfish [1092] (M)</b> <b>Sea Lamprey [1095] (R)</b> <b>Brook Lamprey [1096] (R)</b> <b>River Lamprey [1099] (R)</b> <b>Twaite Shad [1103] (R)</b> <b>Salmon [1106] (R)</b>	<b>Direct: construction and operational related</b>
<b>Otter [1355] (R)</b>	<b>Indirect: construction and operation related</b>
Killarney Fern [1421] (M)	No effect
Nore Pearl Mussel [1990] (R)	No effect

Note (\* = priority)

#### River Barrow and River Nore SAC (site code 002162)

9.1.25. The development site is located within the boundaries of the River Barrow and River Nore SAC, which consists of the freshwater stretches of the Barrow and Nore River catchments and also includes the tidal elements and estuary. It is of significant ecological importance and hosts a range of species and habitats, including priority habitat as detailed in Table 1 above.

Detailed site specific conservation objectives have been published for the site, with the overall objective being to maintain or restore the favourable conservation condition of the Annex 1 habitats(s) and/or the Annex 11 species for which the SAC is selected. Table 2 summarises the appropriate assessment and site integrity test below.

- 9.1.26. The proposed development would involve in-stream works associated with site investigation, weir repair and strengthening works and the construction of the rock ramp fish pass, including scour protection rock armour to the river bank. These works would take place within the SAC and the rock ramp fish pass and scour protection on the west riverbank would become permanent features within the SAC boundary.
- 9.1.27. The works would have direct impacts on habitat both through permanent removal and temporary disturbance of sections of the river bed. The uncontrolled release of sediment and other pollutants during construction could impact on water quality and potentially result in a decline both in habitat quality and in the extent and distribution of spawning/nursery beds. There is also potential for habitat fragmentation for freshwater species that have been recorded in the River Barrow (Salmon, Brook and River lamprey, and Otter). The partial damming of the river and construction along the river bank during site investigation/main construction works may temporarily deter these species from moving within the river corridor preventing them from reaching habitat upstream/downstream of the works.
- 9.1.28. In terms of qualifying habitats, it is noted in the NIS that there are no examples of any of the Annex 1 habitats within the development area. There are no potential impacts on the qualifying terrestrial habitats of the SAC as they are not present in the works area or are otherwise excluded due to their remoteness or lack of connectivity with the site. The remaining 4 no. water dependent habitats (Estuaries, Floating River Vegetation, Hydrophilous Tall Herb Communities and Alluvial Forests) have the potential to be impacted via hydrological connections, in the absence of mitigation.
- 9.1.29. With regard to qualifying species there are no records of Killarney Fen or Desmoulin's Whorl Snail from this area. I also note that the Desmoulin's Whorl snail are not within the possible zone of influence. The 8 no. water dependent species



with the potential to be impacted by the proposed works include *Freshwater Pearl Mussel, White-clawed Crayfish, Brook, River and Sea Lamprey, Twaité Shad, Salmon and Otter*. These qualifying interests are either found within the proposed works area or a potential source-pathway-receptor has been identified.

9.1.30. In terms of adverse effects there is potential for;

- direct impacts on qualifying species of the SAC which are likely to be present in the works area including Salmon, River and Brook lamprey, Crayfish and Otter.
- indirect impacts on the remaining species and water dependent habitats via hydrological connectivity arising from increased sediment load and other pollutants to the river during construction.

**Table 2**

**River Nore River Barrow SAC (002162)**

**Summary of Key issues that could give rise to adverse effects:**

- **Disruption of fisheries habitat**
- **Impediments to free movement and migration upstream of some fish species (e.g. Lamprey species and Shad) and white clawed crayfish**
- **Decrease in water quality and effects on water dependant habitats**
- **Disturbance of Qualifying Interest (e.g. Otter)**
- **Timing of works**

**Positive effects:**

**Improvement of fish passage and migration in the River Barrow system**

**Conservation Objectives:** [River Barrow and River Nore SAC | National Parks & Wildlife Service \(npws.ie\)](https://www.npws.ie/en/river-barrow-and-river-nore-sac)

		Summary of Appropriate Assessment			
Conservation Objective	Targets and attributes	Potential adverse effects	Mitigation measures	In-combination effects	Can adverse effects on integrity be excluded?
To maintain favourable conservation status  Estuaries {1130}  Water courses of plain to montane levels with the Ranunculion fluitantis and	The 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	<u>Indirect</u> : construction related  -Pathways for surface water pollution  -Spread of invasive species.	-Pollution prevention measures for protection of surface water quality described in CEMP e.g.  -Damming of work area, which will be electro fished by IFI and dewatering using a silt buster.  -Installation of silt curtain and oil boom to prevent sedimentation	No	Yes

Callitricho-Batrachion vegetation [3260]  Hydrophilous tall herb fringe communities of plains and of the montaine to alpine levels [6430]	exist and are likely to continue to exist for the foreseeable future, and – the conservation status of its typical species is favourable.	-Decrease in water quality and effects on water dependant habitats  -Disruption of fisheries habitat	and hydrocarbons entering the watercourse  -Screening of construction material  -Cleaning & disinfection of machinery		
To maintain favourable conservation status  White-clawed Crayfish [1092]	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 populations on a long-term basis.-	<u>Direct</u> : during construction and operation  -Disturbance and loss of supporting habitat  -Pathways for water pollution.  -Spread of invasive species  -Impediments to free movement and migration upstream of some fish species	-Pollution prevention measures for protection of surface water quality described in CEMP  -Screening of construction material  -Cleaning & disinfection of machinery  -Timing of instream Works - to be undertaken in two phases  -Steps of rock ramp will create a lower velocity with boulders acting as a refugia areas as fish pass up each step.	No	Yes
Undefined  Freshwater Pearl Mussel [1029]		Precautionary – no known populations		No	Yes

<p>To restore favourable conservation status</p> <p>Sea Lamprey [1095]</p> <p>Brook Lamprey [1096]</p> <p>River Lamprey [1099]</p> <p>Twaiite Shad [1103]</p> <p>Salmon [1106]</p> <p>Otter [1355]</p>	<p>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 populations on a long-term basis.-</p>	<p><u>Direct:</u> during construction and operation</p> <p>-Pathways for water pollution.</p> <p>-Spread of invasive species</p> <p>-Impediments to free movement and migration upstream of some fish species</p> <p>-Disturbance and loss of supporting habitat</p>	<p>-Pollution prevention measures for protection of surface water quality described in CEMP</p> <p>-Timing of instream Works - to be undertaken in two phases</p> <p>-Screening of construction material</p> <p>-Cleaning &amp; disinfection of machinery</p> <p>-Steps of rock ramp will create a lower velocity with boulders acting as a refugia areas as fish pass up each step.</p> <p>-Pre commencement otter survey</p> <p>-Noise control measures during construction phase</p> <p>-Hours of works during daylight</p>	<p>No</p>	<p>Yes</p>
<p><b>Overall conclusion: Integrity test</b></p> <p>Following the implementation of mitigation, the construction and operation of this proposed development will not adversely affect the integrity of this European site and no reasonable doubt remains as to the absence of such effects.</p>					

## Construction phase

### *9.1.31. Adverse effects on water dependent habitat*

- Potential for temporary indirect impacts on water dependent qualifying habitats downstream of the works arising from water quality deterioration and/or sedimentation.
- Potential for water dependent habitats to be impacted by the spread of invasive species.

### *9.1.32. Adverse effects on qualifying species*

- Potential for adverse effects on key species of conservation interest known to occur in the River Barrow including salmon, lamprey species, crayfish and otter through disturbance and habitat loss/fragmentation.
- Potential for adverse effects on other qualifying species downstream of the development including Freshwater Pearl Mussels (with the potential to impact on salmonid fish which the species require to complete their life cycle) Sea Lamprey and Twaite Shad due to sedimentation and/or a deterioration in water quality. Otter may be impacted indirectly through a reduction in water quality which could also result in loss of fish stock and impact on otter populations.
- Potential loss/disturbance and fragmentation of habitat for qualifying species.
- Potential decline both in habitat quality and in the extent and distribution of habitat (spawning/nursery beds) for key species arising from reduced water quality arising from the release of sediment and other pollutants
- Potential for indirect impacts on all qualifying species by the spread of invasive species.

## Operational phase

### *9.1.33. Adverse effects on water dependent habitat*

- Potential for water dependent habitats to be impacted by the spread of invasive species.

### *9.1.34. Adverse effects on qualifying species*

- Potential impediment for migration of qualifying species in particular Lamprey species, Eels and Twaite Shad downstream of the Wier.

Plans and projects considered for in combination effects:

9.1.35. The NIS (Section 5.1) considers plans and projects that may contribute to in combination effects:

- Carlow Co. Development Plan 2014-2021 and Kilkenny Co Development Plan 2014-2020 contains policies and objectives to protect and, where possible enhance the natural heritage sites, plant and animal species and their habitats designated under European and National legislation.
- Carlow Flood Relief Scheme undertaken as part of the OPW Major Flood Relief Schemes programme and completed.
- OPW Minor Flood Mitigation Works Coastal Protection Scheme: 2009-2017
- Waterways Ireland Applications for wall repair works and bank repair works along the Canal/River bank.

9.1.36. The overall conclusion reached in the NIS is that the plans contain objectives for the protection of biodiversity and that their implementation would not contribute to cumulative or in-combination impacts with the proposed weir repair and strengthening works and rock ramp fish pass.

9.1.37. Having regard to the potential adverse effects on the conservation objectives of the designated River Barrow and River Nore SAC, the NIS, the CEMP and the updated information provided by way of further information a number of mitigation measures have been proposed which must be assessed in order to determine if the proposed development would adversely affect the integrity of the European sites.

**Mitigation measures**

Mitigation measures during construction

9.1.38. A suite of mitigation measures are proposed to address the potential adverse effects of construction. The measures are set out in Section 2.2.1 of the NIS and were updated in the further information submitted to the PA and included in Table 3.1 of the CEMP. The measures proposed are targeted to avoid and reduce potential

impacts on the designated site and the qualifying interests and to avoid the spread of invasive species.

9.1.39. An outline of the main mitigation measures is provided below:

#### Pre-Commencement Phase

- Further otter surveys will be undertaken prior to commencement of any works.
- Invasive species survey will be undertaken prior to commencement of any works. Should any be recorded in addition to Himalayan Balsam then an Invasive Species Management Plan will be drawn up.
- An Ecological Clerk of Works (ECoW) shall be appointed to monitor the construction works, ensure the implementation of the mitigation measures and liaise with IFI.

#### Construction Phase

- A mobile fuel bowser will be used to transport fuel to the site daily and no fuel will be stored on-site. All plant refuelling on site using mobile fuel bowzers. A spill kit and drip tray shall be on site at all times and available for all refuelling operations.
- Oil booms and oil soakage pads will be kept on site to deal with any accidental spillage.
- The existing access track adjacent to the wastewater treatment works which provides access to the weir will be upgraded to allow the transport of materials to construct the rock ramp.
- A temporary fence will be erected around the terrestrial works area and no works will take place outside the fenced area, with no loss of woodland associated with the proposed lane upgrade. The access track will be reinstated to its original condition on completion of works.
- A silt fence will be erected along the northern side of the track over its entire length. Every 20m the track will be slightly raised against the fence to prevent sediment run off from reaching the river. Holes of 300mm will be cut in the fence to allow the passage of fauna.

- To facilitate dry working conditions approx. 50% of the river channel will be dammed to form Phase 1 works area. This will ensure that flow is maintained through the other half of the river channel (Figure 2.1 of NIS). The area will be dammed using double contained 1m<sup>3</sup> sandbags (i.e. large bag filled with smaller sandbags). This construction methodology was employed successfully on the Castletown rock ramp construction.
- A silt curtain and oil boom will be installed on the outer downstream perimeter of the dam to prevent sedimentation and hydrocarbons entering the watercourse during excavation and repair works (Appendix 1 – Drawing AA300/LTN/08, & Appendix 3 – specifications).
- Sandbags will be placed along the upstream of the weir, approx. 1.5-2.0m out from the crest of the weir, through the middle of the river channel, and along the downstream side of the weir to enclose the Phase 1 area. Sandbags will be lifted into place using an excavator.
- To facilitate dry working conditions the enclosed area will be dewatered using a silt bag or silt buster. This will ensure that the works area is isolated from any flowing water and that sediments or water pollutants will not enter the river environment.
- Phase 1 dam will be removed after the completion of works and methodology repeated for Phase 2. Excavator will gain access to Phase 2 via floating barge (Appendix 1 – Drawing AA300/LTN/08).
- Placing of materials shall be done in one continuous operation which follows best international guidance on rock ramp design.
- Heavy boulders shall be individually placed to achieve a dense and fully interlocked construction.
- Sediment control measures as per the conclusions of the hydrology report (Appendix 4) will be put in place before works commence in early July, as July has the lowest average maximum daily flow.
- All sandbags and machinery will be removed from the site prior to any flood event. Water will be pumped out from the works area using a submersible pump and through a dewatering silt bag or silt buster. The clean discharge will be released over land where possible before entering the watercourse.



The silt bag or siltbuster will allow the water to flow through the geotextile fabric and trap any of the finer silt and sediment remaining in the water.

- The dewatering silt bag or silt buster are proposed for the treatment of water pumped from excavations or during dewatering of instream areas prior to discharge.
- A barge will be employed to move the excavator to Phase 2 (Drawings AA300/LTN/08 and Drawing AA300/LTN10 in Appendix 1).
- Temporary stockpiles will be secured with silt fencing and covered during heavy rainfall events.
- Excavated river bank material will be re-used on completion of the bank reinforcement works where feasible to in order to recreate the profile of the bank or will be disposed of to a licensed waste disposal site.
- Bio-security measures such as washing of vehicles, plant and equipment will be adhered to as detailed in Section 4.3.2.7 below.
- Outside working hours, plant machinery will be parked on the access track a minimum distance of 10m from the watercourse.
- All works would be conducted during the summer months (July 1st - September 30th) during periods of low flow in the river and outside both the salmon and lamprey spawning reasons and the season when crayfish are with ova or young.
- Prior to dewatering the bunded area would be electro-fished by IFI to prevent impacts on spawning fish and minimise disturbance to fish and prevent fatalities within the dammed area.
- Normal best practice will be employed regarding the storage of top soil, stockpiling of materials etc.
- Standard measures will be employed to prevent fuels, hydraulic oils, lubricants and other hazardous materials from entering the watercourse.
- Invasive Alien Plant Species contaminated material shall be removed and transported off site immediately to a licensed waste facility and will not be stockpiled anywhere on the site.

- All machinery will be thoroughly cleaned and disinfected using Virkon 1% biocide prior to arrival and departure from site.
- Landscaped areas will be seeded with grass immediately after the completion of works.

#### Operational Phase

- Post construction monitoring will be undertaken by the IFI through a recognised scientific study which assesses the pass-ability of different fish species through the barrier according to WFD111 methodology (IFI, 2016).

9.1.40. It is considered that the measures proposed, which involve standard best practice and environmental controls, including specific measures tailored to site conditions, are sufficient to address the potential adverse effects of the development and to ensure the protection of the integrity of the River Barrow and River Nore SAC (Site Code 002162), and the conservation status of the habitats and species they support.

#### Residual Impacts

9.1.41. The NIS notes that in the absence of mitigation, the construction of the rock ramp fish pass would have the potential to result in adverse effects on the habitats and species for the designated site brought forward for Appropriate Assessment. I consider that the implementation of the mitigation measures outlined in the CEMP, the NIS and in response to further information, which are in accordance with best construction practice and environmental controls which take account of site specifics, will remove the possibility of adverse effects on the designated site and the qualifying interests. No residual impacts are therefore anticipated.

9.1.42. It has been demonstrated that the provision of a partial rock ramp fish pass would not cause significant hydraulic changes and would have negligible impacts on water levels and flow velocities in the river with the potential to result in adverse effects on qualifying species.

9.1.43. The third party submission from Ecofact to the planning authority questions the suitability of the design of the rock ramp for various species and in particular Lamprey species, Eels and Twaite Shad.

9.1.44. Section 2.2.3 of the EclA acknowledges that weirs can act as a barrier for migration of these species while Section 4.2 of the NIS identifies preventive measures to avoid

effects. It is proposed to provide lamprey tiles, bristle mats for eels and a rough mortar finish to encourage the growth of bryophytes which are intended to be effective in facilitating the migration of Lamprey species and Eels.

- 9.1.45. In relation to Twaite Shad it is noted that it travels in shoals on migration and that a rock ramp complex provides features for the shads to rest and navigate their way up through the structure, and that the size of the interstitial spaces allows shads to travel in a shoal format. Reference is made to supporting scientific material by Franklin (2009) and Turek et al (2014) with regard to shad passage at rock ramp fish pass solutions noting the design dimensions for the length, width and depth.
- 9.1.46. In this regard, I note the monitoring measures proposed as part of the operational phase of the development, which is to be carried out by the IFI in accordance with approved international methodology WFD111, as detailed in Table 3.1 of the revised CEMP and in Section 4.2.3 of the revised NIS. Notwithstanding, I consider it prudent to include monitoring obligations on Waterways Ireland to ensure that the weir is working effectively for all species and that in the unforeseen event that any species movements are impeded, remedial works are undertaken without delay.
- 9.1.47. In this regard if the Board are minded to grant permission a suitably worded condition could be attached, requiring a monitoring programme be developed with the IFI ensuring that the fish pass is working as expected, both hydraulically and biologically. Hydraulic monitoring should be employed to check that the pass is working within the expected range of head levels e.g. use of gauge boards upstream and downstream of the pass. Biological monitoring should be carried out in the year following construction to check that the target fish species use the pass effectively and efficiently across the range of rivers flows for the which the pass was designed.
- 9.1.48. On the basis of the information submitted, I consider that it has been established that the proposed in-stream works would not impede other nature conservation measures at this location at any time in the future and would address the barriers to fish passage that currently exist. I accept that any such measures would require collaboration between all relevant stakeholders including IFI, DoCHG, Carlow and Kilkenny Co. Council. I consider that it is reasonable to conclude, based on the best available scientific information available that the proposed in stream works would not prevent the achievement of the key conservation objectives of the SAC.

## Integrity of the River Barrow and River Nore SAC

9.1.49. Following the appropriate assessment and the consideration of mitigation measures, and consideration of Section 6.2 and Table 6.1 of the NIS submitted with the application, I am able to ascertain with confidence that the project would not adversely affect the integrity of River Barrow and River Nore SAC (site code: 002161), in view of the Conservation Objectives of this site.

### **Conclusion on Appropriate Assessment**

9.1.50. Having regard to the nature of the proposed development and the mitigation measures proposed, the scientific information presented with the application, including the Natura Impact Statement, and information submitted by way of further information, which I consider adequate in order to carry out a complete assessment of the implications of the proposed development, I consider it reasonable to conclude that the proposed development, individually or in combination with other plans or projects, would not adversely affect the integrity of the River Barrow and River Nore SAC (site code: 002161), or any other European site, in view of the sites' Conservation Objectives. This Conclusion is based on the following:

- The proposal will serve to improve the conservation status of Atlantic salmon in line with the target by removing the artificial barrier which block salmon migrating upstream.
- The proposal includes measures to ensure that Lamprey species, White-Clawed Crayfish and Twaite Shad can navigate the weir which will serve to improve the current situation and will not hinder the conservation objective to 'restore' the favourable conservation status of these species.
- With implementation of mitigation measures, the construction phase will not result in adverse effects on qualifying interest species or water dependent habitats. Mitigation measures which include Pre-commencement otter surveys and invasive species surveys will be undertaken prior to commencement of any works
- The inclusion of monitoring measures to ensure that the weir is working effectively for all species and that in the unforeseen event that any species movements are impeded, remedial works are undertaken.

9.1.51. There is no reasonable scientific doubt as to the absence of such effects.

## 10.0 Recommendation

10.1. I recommend that the Board approve the proposed development for the reasons and considerations below and subject to conditions.

### Reasons and Considerations

In coming to its decision, the Board had regard to the following:

- (a) the EU Habitats Directive (92/43/EEC),
- (b) the European Union (Birds and Natural Habitats) Regulations 2011-2015,
- (c) the likely consequences for the environment and the proper planning and sustainable development of the area in which it is proposed to carry out the proposed development and the likely significant effects of the proposed development on a European Site,
- (d) the conservation objectives, qualifying interests and special conservation interests for the River Barrow and River Nore SAC (site code: 002161)
- (e) the policies and objectives of the Carlow County Development Plan 2015-2021, and Kilkenny County Development Plan 2014-2020.
- (f) the nature and extent of the proposed works as set out in the application for approval,
- (g) the information submitted in relation to the potential impacts on habitats, flora and fauna, including the Natura Impact Statement,
- (h) the submissions and observations received in relation to the proposed development,
- (i) the Inspectorate Ecologist's assessment, and
- (j) the report and recommendation of the person appointed by the Board to make a report and recommendation on the matter,

### Appropriate Assessment:

The Board agreed with and adopted the screening assessment and conclusion reached in the Inspector report that the River Barrow and River Nore SAC (site

code: 002161), is the only European Site in respect of which the proposed development has the potential to have a significant effect.

The Board considered the Natura Impact Statement and associated documentation submitted with the application for approval, the mitigation measures contained therein, and the submissions and observations on file. The Board completed an appropriate assessment of the implications of the proposed development for one European Site, namely the River Barrow and River Nore SAC (site code: 002161), in view of the site's conservation objectives. The Board considered that the information before it was adequate to allow for a complete assessment of all aspects of the proposed development and enable them reach complete, precise and definitive conclusions for appropriate assessment.

In completing the appropriate assessment, the Board considered, in particular, the following:

- i. the likely direct and indirect impacts arising from the proposed development both individually or in combination with other plans or projects,
- ii. the mitigation measures which are included as part of the current proposal, and
- iii. the conservation objectives for the European Site. In completing the appropriate assessment, the Board accepted and adopted the appropriate assessment carried out in the Inspector's report in respect of the potential effects of the proposed development on the integrity of the aforementioned European Site, having regard to the site's conservation objectives. In overall conclusion, the Board was satisfied that the proposed development, by itself or in combination with other plans or projects, would not adversely affect the integrity of the European Site, in view of the site's conservation objectives and there is no reasonable scientific doubt remaining as to the absence of such effects.

**Proper Planning and Sustainable Development/Likely effects on the environment:**

It is considered that, subject to compliance with the conditions set out below, the proposed repair and strengthening works to the existing weir and proposed rock ramp fish pass would not have significant negative effects on the environment or on the archaeological heritage of the area. The proposed development is in accordance with the stated objectives of the Carlow County Development Plan 2015-2021, and

Kilkenny County Development Plan 2014-2020 to protect and, where possible, enhance natural heritage sites designated under European and National legislation. It would constitute a significant improvement in terms of the protection of endemic fish species by accommodating their passage upstream and downstream of the weir and would, therefore, be in accordance with the proper planning and sustainable development of the area.

## 11.0 Conditions

1. The development shall be carried out and completed in accordance with the plans and particulars lodged with the application and the information contained in the Natura Impact Statement (NIS), as amended by the further details submitted 20<sup>th</sup> March 2020, except as may otherwise be required in order to comply with the following conditions. Where any mitigation measures or any conditions of approval require further details to be prepared by or on behalf of the applicant, these details shall be submitted to and agreed in writing with the planning authority.

**Reason:** In the interest of clarity and the proper planning and sustainable development of the area and to ensure the protection of the environment.

2. The creation of a dry working environment and all works within it shall be conducted from the 1<sup>st</sup> July to the 30<sup>th</sup> September inclusive. No site investigation, excavation or construction shall take place between October 1<sup>st</sup> and June 30<sup>th</sup> in any year.

**Reason:** In the interests of protecting the environment, the protection of European Sites and in the interest of public health.

3. Prior to commencement of development, the applicant, or any agent acting on its behalf, shall prepare/update in consultation with the relevant statutory agencies, the Construction Environmental Management Plan (CEMP), incorporating all mitigation measures indicated in the Natura Impact Statement (NIS), Ecological Impact Assessment Report (EclA), and

Hydraulic and Hydrologic Assessment Report (H&HA) and demonstration of proposals to best practice and protocols.

**Reason:** In the interests of protecting the environment, the landscape, European Sites, sensitive receptors and in the interest of public health.

4. Prior to commencement of development, details of measures to protect fisheries and water quality of the river systems shall be submitted to and agreed in writing with the planning authority. In channel works shall adhere to the timing restrictions to avoid damage to spawning and juvenile fish. Full regard shall be had to Inland Fisheries Ireland's published guidelines for construction works near waterways (Guidelines on Protection of Fisheries during construction works in and adjacent to waters, 2016). A programme of water quality monitoring shall be prepared in consultation with the contractor, and relevant statutory agencies and the programme shall be implemented thereafter. Details of such monitoring shall be submitted to and agreed in writing with the planning authority.

**Reason:** In the interests of the protecting of receiving water quality, fisheries and aquatic habitat.

5. A suitably qualified ecologist shall be retained by the applicant to oversee the site set up and construction of the proposed development and implementation of mitigation measures relating to ecology set out in NIS, CEMP, EclA and H&HA. The ecologist shall be present during site construction works. Upon completion of works, an ecological report of the site works shall be prepared by the appointed ecologist and submitted to the planning authority for agreement in writing.

**Reason:** In the interests of nature conservation and the protection of terrestrial and aquatic biodiversity.

6. A monitoring programme shall be developed with the IFI to ensure that the fish pass is working as expected, both hydraulically and biologically.
  - (a) Hydraulic monitoring shall be employed to check that the pass is working within the expected range of head levels e.g. use of gauge boards upstream and downstream of the pass.



(b) Biological monitoring shall be carried out in the year following construction to check that the target fish species use the pass effectively and efficiently across the range of rivers flows for the which the pass was designed.

**Reason:** In the interests of nature conservation and the protection of aquatic biodiversity.

7. The applicant and any agent acting on its behalf shall facilitate the preservation, recording, protection or removal of archaeological materials or features that may exist within the site.

In this regard, the applicant shall:

(a) employ a suitably qualified archaeologist prior to commencement of the development who shall assess the site and monitor all site investigations and other excavation works, and

(b) undertake an Underwater Archaeological Impact Assessment in advance of any works. The assessment shall be carried out in accordance with the requirements of the Department of Culture, Heritage and the Gaeltacht and shall include the following: detailed desktop study and archaeological assessment to include intra-riverine assessment and if necessary, a dive survey. The assessment shall include survey and recording of the area of the river that will be impacted and adjacent areas,

i. a metal detection survey,

ii. the nature and location of any archaeological material on the site,

iii. the impact of the proposed development on such archaeological material

A report containing the results of the assessment and any recommendations to mitigate any negative impacts shall be submitted to the Underwater Archaeological Unit for consideration in advance of any works commencing on the site.

(c) provide arrangements, acceptable to the Department of Culture Heritage and the Gaeltacht for the recording and removal of any archaeological material which it is considered appropriate to remove.

**Reason:** In order to conserve the archaeological heritage of the site and to

secure the preservation and protection of any remains that may exist within the site.

8. A detailed Traffic Management Plan shall be submitted to and agreed in writing with both Carlow County Council and Kilkenny County Council, prior to commencement of development.

**Reason:** In the interest of traffic and pedestrian safety.

9. All necessary measures shall be undertaken by the contractor to prevent the spillage or deposit of clay, rubble or other debris on adjoining roads during the course of the works.

**Reason:** To protect the amenities of the area.

10. Following consultation with the National Parks and Wildlife Service, Inland Fisheries Ireland, Carlow County Council and Kilkenny County Council, appropriate measures shall be undertaken during construction phase to prevent the spread of invasive plant species identified on the site. The plan shall indicate proposals to avoid contact and disturbance with roots and other parties of the plant and methods to avoid dispersal and allow for collection of inadvertently fragmented plant matter. These measures shall be agreed in writing with the planning authority prior to commencement of development.

**Reason:** In order to adhere to the European Communities (Bird and Natural Habitats) Regulations 2011 (S.I. 477 of 2011) to prevent the spread of invasive plant species and to protect riparian diversity.

11. Measures shall be implemented during construction phase of the proposed development to ensure that potential disturbance to trees, rare plants and protected species such as otter is avoided. The National Parks and Wildlife Service shall be consulted to ascertain appropriate measures, which shall be agreed in writing with the planning authority prior to commencement of any development on the site.

**Reason:** To comply with EU Habitats Directive 92/43/EC regarding the protection of resting up and breeding places of certain species, including the otter.

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Susan McHugh  
Senior Planning Inspector

1<sup>st</sup> July 2021