

**Kilkenny Abbey Quarter Riverside Gardens
Ecological Impact Assessment**



Prepared By

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Environmental Services**

**For
Kilkenny County Council**

**Job Number 15189
November 2015 Rev4**



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1. INTRODUCTION

Moore Group was commissioned by Kilkenny County Council to carry out an Ecological Impact Assessment with regard to the proposed development of a riverside walk at the former St. Francis' Abbey Brewery, Kilkenny.

The present report was compiled by Ger O'Donohoe of Moore Group providing information on flora and fauna. Ger O'Donohoe M.Sc. is the principal ecologist with Moore Group and has over 20 years of experience in ecological impact assessment.

The report concentrates on ecological features within the development area of particular significance, primarily designated habitats and species, including habitats/species listed in Annex I, II and IV of the EU Habitats Directive, rare flora listed in the Flora Protection Order along with other semi-natural habitats of conservational value.

The report has been compiled in compliance with the European Communities Legal requirements and follows guidance outlined in the following documents:

- EPA Revised Guidelines on the Information to be contained in Environmental Impact Statements Draft September 2015.
- EPA Advice Notes on for Preparing Environmental Impact Statements Draft September 2015.

The European Habitats Directive 92/43/EEC (Article 6) indicates the need for plans and projects to be subject to Habitats Directive Assessment (also known as Appropriate Assessment) if the plan or project is not directly connected with or necessary to the management of a Natura 2000 site (which includes SACs and SPAs) but which has the potential to have implications on a site's conservation objectives. These implications can be significant effects either individually or in combination with other plans or projects.

An Appropriate Assessment Screening Report was prepared for this project and is presented as a separate report to the planning application.

This report fulfils the following commitment made as part of the Masterplan/Variation and associated SEA/AA processes:

“The Appropriate Assessment for the linear park shall be informed by an ecological impact assessment which shall consider issues including ecological connectivity and species such as otters and kingfishers (including potential interactions with food sources and aquatic and terrestrial habitats) and bats (including potential interactions with roosts, foraging sites and lighting). The ecologist working on AA

for the project shall be consulted at the start of the project so that any necessary mitigation or design changes can be incorporated early in the project.”

2. ASSESSMENT METHODOLOGY

2.1. POLICY & GUIDANCE

2.1.1. EU Habitats Directive

The “Habitats Directive” (Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Flora and Fauna) is the main legislative instrument for the protection and conservation of biodiversity within the European Union and lists certain habitats and species that must be protected within wildlife conservation areas, considered to be important at a European as well as at a national level. A “Special Conservation Area” or SAC is a designation under the Habitats Directive. The Habitats Directive sets out the protocol for the protection and management of SACs.

The Directive sets out key elements of the system of protection including the requirement for “Appropriate Assessment” of plans and projects. The requirements for an Appropriate Assessment are set out in the EU Habitats Directive. Articles 6(3) and 6(4) of the Directive.

2.1.2. EU Birds Directive

The “Birds Directive” (Council Directive 79/409/EEC as codified by 2009/147/EC) provides for a network of sites in all member states to protect birds at their breeding, feeding, roosting and wintering areas. This directive identifies species that are rare, in danger of extinction or vulnerable to changes in habitat and which need protection (Annex I species). Appendix I indicates Annex I bird species as listed on the Birds Directive. A “Special Protection Area” or SPA, is a designation under The Birds Directive.

SACs and SPAs form a pan-European network of protected sites known as Natura 2000 sites and any plan or project that has the potential to impact upon a Natura 2000 site requires Appropriate Assessment (AA). As outlined previously, an AA Screening Report was prepared for this project and is presented as a separate report to the planning application.

2.1.3. Wildlife Acts 1976 - 2012

The primary domestic legislation providing for the protection of wildlife in general, and the control of some activities adversely impacting upon wildlife is the Wildlife Act of 1976, as amended. The aims of the wildlife act according to the National Parks and Wildlife Service are “... *to provide for the protection and conservation of wild fauna and flora, to conserve a representative sample of important ecosystems, to provide for the development and protection of game resources and to regulate their exploitation, and*

to provide the services necessary to accomplish such aims." All bird species are protected under the act. The Wildlife (Amendment) Act of 2000 amended the original Act to improve the effectiveness of the Act to achieve its aims.

2.2. SURVEY METHODOLOGY

The assessment was carried out in three stages, firstly through desktop assessment to determine existing records in relation to habitats and species present in the study area. This included research on the NPWS metadata website, the National Biodiversity Data Centre (NBDC) database and a literature review of published information on flora and fauna occurring in the development areas.

The second phase of the assessment involved site visits to establish the existing environment in the footprint of the proposed development. Areas which were highlighted during desktop assessment were investigated in closer detail according to the Heritage Council Best Practice Guidance for Habitat Survey and Mapping (Smith *et al.*, 2011). Habitats in the proposed development areas were classified according to the Heritage Council publication "A Guide to Habitats in Ireland" (Fossitt, 2000). This publication sets out a standard scheme for identifying, describing and classifying wildlife habitats in Ireland. This form of classification uses codes to classify different habitats based on the plant species present. Species recorded in this report are given in both their Latin and English names. Latin names for plant species follow the nomenclature of "An Irish Flora" (Parnell & Curtis, 2012).

Habitats were surveyed on the 22nd and 23rd September 2015 by conducting a site walkover covering the area under the footprint of the proposed development including a survey of the habitats along the River Nore. The survey date is considered at the end of the optimal botanical survey period and considered appropriate for the purposes of this assessment. Details of bankside ecology are included from a Habitat Survey undertaken prior to proposed demolition works of the brewery site buildings in summer 2013 and there have been no significant changes in habitats since this survey.

Signs of mammals were searched while surveying the study area noting any sights, signs or any activity in the vicinity especially along adjacent boundaries. Evidence of bird nesting or potential for nesting was recorded. A photographic record was made of the main features of interest.

The final part of the assessment involves an evaluation of the proposed development area and determination of the potential impacts on the flora and fauna of the area. This part of the assessment forms the basis for Impact Assessment and is based on the following guidelines and publications:

- Assessment of plans and projects significantly affecting Natura 2000 sites (EC, 2002);
- Managing Natura 2000 Sites (EC, 2000);
- Guidance document on Article 6(4) of the Habitats Directive 92/43/EEC (EC, 2007);

- Appropriate Assessment of Plans and Projects in Ireland - Guidance for Planning Authorities (DEHLG, December 2009, Rev 2010);
- EPA Revised Guidelines on the Information to be contained in Environmental Impact Statements Draft September 2015.
- EPA Advice Notes on for Preparing Environmental Impact Statements Draft September 2015.
- Best Practice Guidance for Habitat Survey and Mapping (Heritage Council, 2011);
- Guidelines for the Treatment of Otters Prior to the Construction of National Road Schemes (NRA, 2006); and
- Guidelines for Assessment of Ecological Impacts of National Road Schemes (NRA, 2009).
- Bat Mitigation Guidelines for Ireland (National Parks and Wildlife Service, Department of Environment Heritage and Local Government, 2006).

The location of the proposed development area in the vicinity of the St. Francis' Abbey Brewery Site at Kilkenny is presented in Figure 1 below.

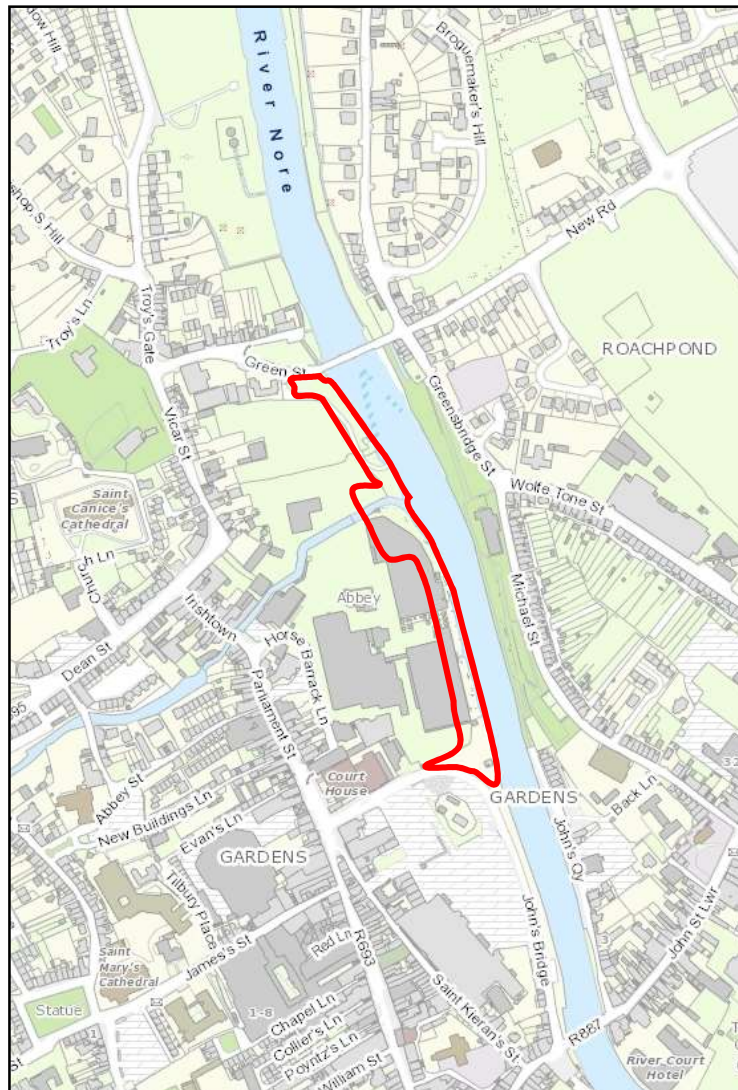


Figure 1. Showing the indicative site location at St. Francis' Abbey, Kilkenny.

3. PROJECT DESCRIPTION

The site in question is located along the western bank of the River Nore within the Kilkenny City Centre boundaries and its width will consist of, on average, a 15m strip. A large extent of the proposed scheme is located within the Diageo St. Francis' Abbey Brewery and is proposed to form part of the larger masterplan of the Diageo site and extends as far north as Green's Bridge, see Figure 2.

The proposed development shall consist of a 15m wide strip located alongside the western bank of the River Nore to link the city with the existing Nore River Walk north of the site. The proposal has designated the area to the south of the site (The Tea Houses on Bateman's Quay) as the gateway to the Park which will be achieved in the form of a contemporary interpretation of the typical archway found across Kilkenny city. The area associated with the Tea rooms will be designed as a seating / viewing area along the river.

The project will include the following:

- the removal of the existing concrete slab,
- the raising of site levels,
- Provision of a 3m wide shared pedestrian / cycle, that will meander through the Linear Park,
- Retention and reinforcement of the existing riparian planting along the river bank,
- Raising of the existing ground levels,
- Removal of the existing non-native Poplar Trees along the top of the River Bank,
- Provision of paved 'pocket' spaces,
- Provision of Ornamental planted areas and grassed lawns,
- Provision of Seating areas,
- Provision of Walkway Lighting,
- Installation of various elements from the Brewing process as features to reflect the past history of the site,
- Entrance "Gateway" Structure in the area of the Tea Houses on Bateman Quay,
- Retention of the existing boat slip,
- Provision of a Skate Park area to the north of the River Breagagh,
- Areas identified from historic mapping which indicate the potential for buried structures to be investigated with archaeological supervision. Any newly revealed features to be appropriately displayed.

It is the intention to retain and position artefacts from the Diageo site as Sculptural elements throughout the Park to animate spaces and acknowledge the site's former use. A 3m wide shared pedestrian and cycle route is proposed as the primary circulation route through the Park and shall meander along the river's edge, allowing access to a series of spaces, varying in scale and function. The sequence of spaces will provide seating and gathering spaces to sit and enjoy the River Nore and

elements and features to interact with. The proposals aim to create a variety of experiences along the linear route to retain interest, excitement and exploration. The planting strategy aims to create structure and year-round interest, to enhance the existing habitats and in doing so, improve the site's biodiversity.

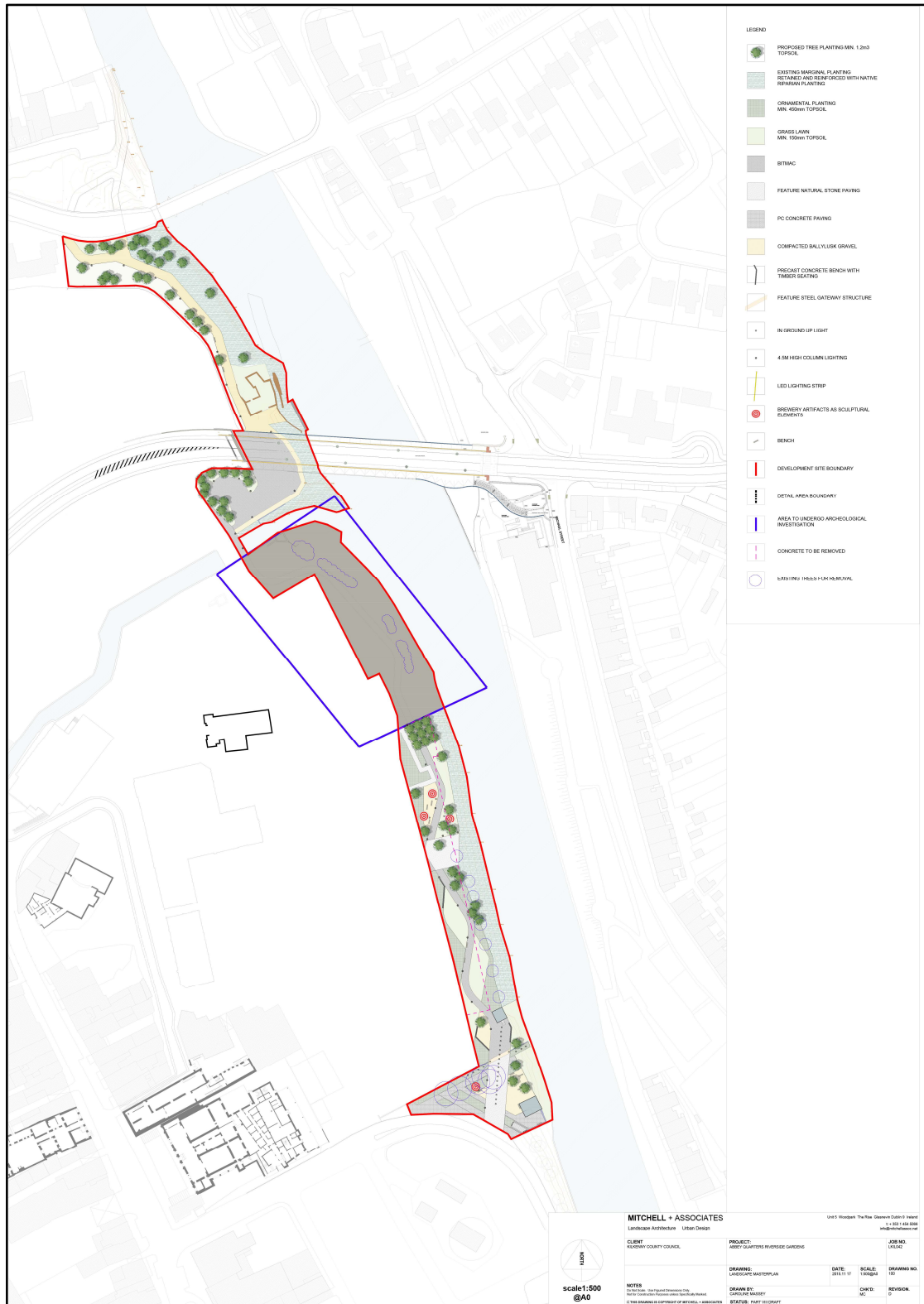


Figure 2. Showing the indicative design for the project.

4. EXISTING ENVIRONMENT

4.1. DESIGNATED CONSERVATION AREAS

The River Nore flows from the north to south and forms the eastern boundary of the site. The River Nore in Kilkenny City is designated as part of the River Barrow and River Nore SAC (Site Code 002162) and River Nore SPA (Site Code 004233) see Figure 3.

The River Nore is part of a candidate SAC selected for alluvial wet woodlands and petrifying springs, priority habitats on Annex I of the E.U. Habitats Directive. The site is also selected as a candidate SAC for old oak woodlands, floating river vegetation, estuary, tidal mudflats, Salicornia mudflats, Atlantic salt meadows, Mediterranean salt meadows, dry heath and eutrophic tall herbs, all habitats listed on Annex I of the E.U. Habitats Directive.

The site is also selected for the following species listed on Annex II of the same directive – Sea Lamprey, River Lamprey, Brook Lamprey, Freshwater Pearl Mussel, Nore Freshwater Pearl Mussel, Crayfish, Twaité Shad, Atlantic Salmon, Otter, Desmoulin's Whorl Snail and the Killarney Fern.

The river in this area is also designated as a Special Protection Area (Site Code 004233) for Kingfisher. The SPA site includes the river channel and marginal vegetation.

A survey in 2010 recorded 22 pairs of Kingfisher (based on 16 probable and 6 possible territories) within the SPA. Other species which occur within the site include Mute Swan (35), Mallard (267), Cormorant (14), Grey Heron (45), Moorhen (14), Snipe (17) and Sand Martin (1,029) – all figures are peak counts recorded during the 2010 survey.

There are recorded sightings of Kingfisher both upstream and downstream of Kilkenny City in the 2010 survey undertaken by Cummins *et al.* (2010) and it is probable that Kingfisher move through the river channel between territories. There are records on the National Biodiversity Data Centre database for Kingfisher near John's Bridge from 07/12/2013 and 31/07/2014 confirming this movement.

There are no suitable nesting areas for Kingfisher along the site boundary. Kingfisher nest in riverside banks of compact sand and silt and have a preference for higher more vertical banks that avoid predation from mink and otter. One of the most limiting factors with regards the presence or absence of Kingfishers is the availability of suitable nesting banks (Cummins *et al.*, 2010).

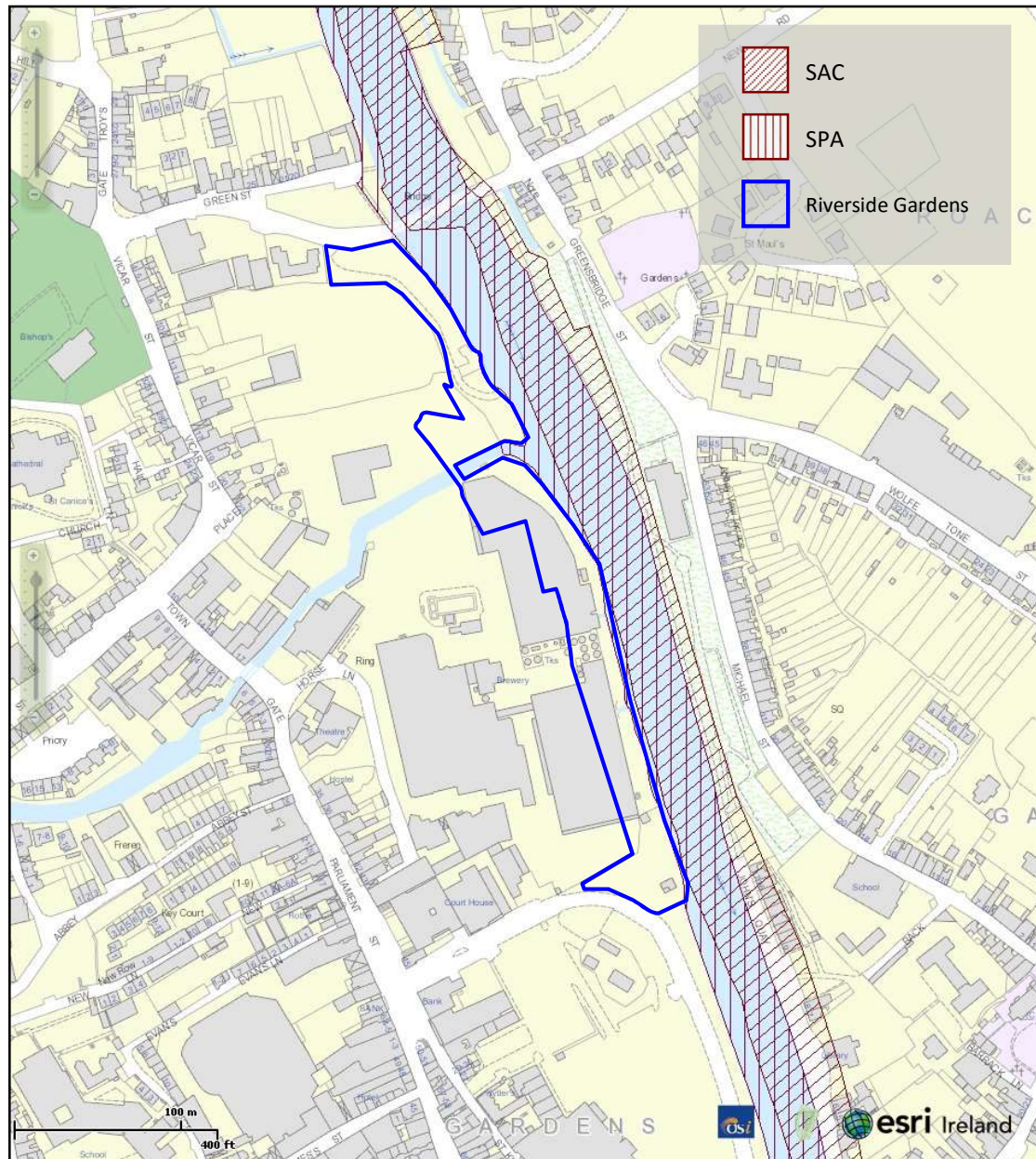


Figure 3. Indicative site Location in relation to the River Nore Natura 2000 sites.

4.2. HABITAT DESCRIPTIONS

The main habitat recorded on site includes the buildings and artificial surfaces (BL3) that make up the brewery. The river bank to the rear or eastern boundary of the site presents the most diverse habitat with a Treeline (WL2) and planted understorey within the site boundary and the river bank outside the site boundary. The only other habitats on site are ornamental flower beds (BC4) around the Abbey ruin, see Figure 3 showing habitats (BL3 refers to the majority of the site and is not indicated). The Kilkenny Central Access Scheme is currently under construction (September 2015).

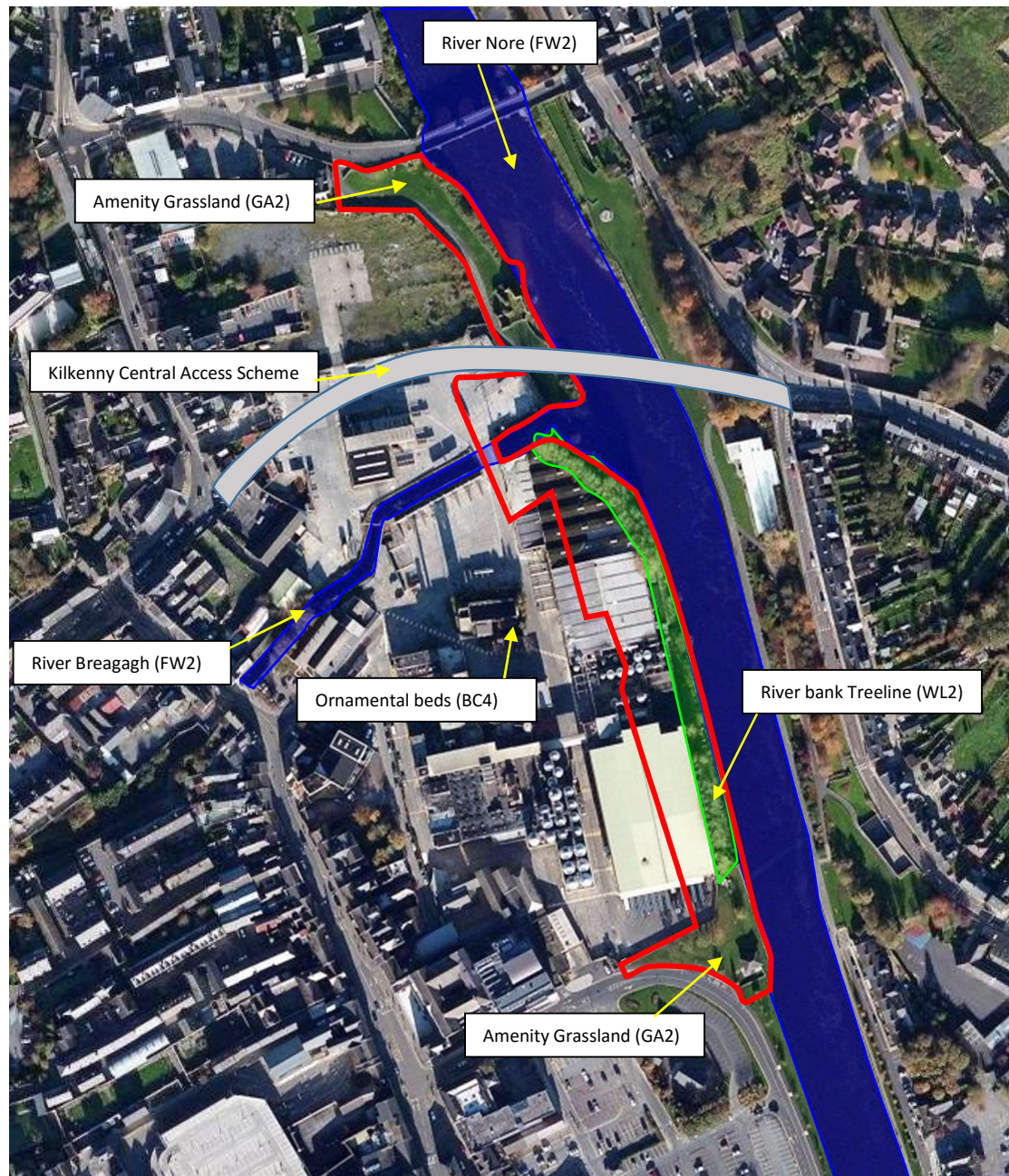


Figure 3. Showing existing habitats recorded in the general area of the proposed walk (in red).

The river boundary is characterised by a narrow strip of hardstand which forms the foundation of the existing brewery site. The site is fenced off from the riverbank in this area and the upper bank is colonised by a treeline of mature Poplar trees (*Populus nigra*), see Photo 1.

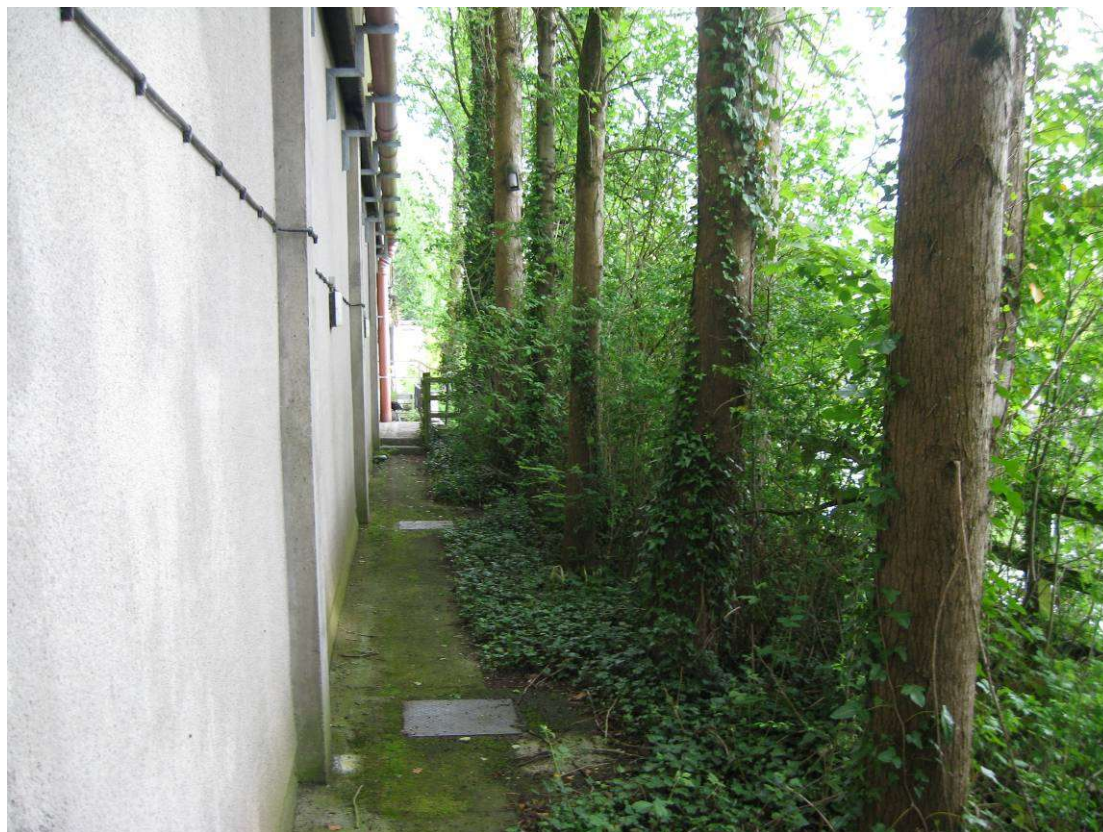


Photo 1. Showing the treeline to the rear of former brewery buildings along the River Nore.

The treeline is interspersed with Hawthorn (*Crataegus monogyna*), Sycamore (*Acre pseudoplatanus*) and Rose (*Rosa canina*). Further down the sloping bank, Willow species (*Salix spp.*) were common along with juvenile Ash (*Fraxinus excelsior*)(see Photo 2). Other trees recorded included Cherry blossom (*Prunus serrulata*), Common Alder (*Alnus glutinosa*), Silver birch (*Betula pubescens*) and Elder (*Sambucus nigra*). Horse chestnut (*Aesculus hippocastanum*) and Elder were more common in the vicinity of the mouth of the Breagagh River near Evan's Tower.

The understorey of the lime trees was densely colonised by Bramble (*Rubus fruticosus* agg.), Ivy (*Hedera helix*) and juvenile Ash and Sycamore saplings. Dogwood (*Cornus sanguinea*) was recorded as common along with Dog rose (*Rosa canina*), Cow parsley (*Heracleum sphondylium*), Cleavers (*Galium aparine*), Red valerian (*Centranthus ruber*) and Lords and Ladies (*Arum maculatum*) in shadier spots.

The bankside vegetation was comprised of a grass covered rough-cut stone bank for the most part with colonising species including; Willow, Hogweed, Great willowherb (*Epilobium hirsutum*), Dandelion (*Taraxacum* agg.), Butterbur (*Petasites hybridus*), Tufted vetch (*Vicia cracca*), Thistles (*Cirsium* spp.). Closer to the river, Reed Sweet-grass (*Glyceria maxima*) and Common Club-rush (*Schoenoplectus lacustris*) were common.



Photo 2. Showing the bankside vegetation to the rear of former brewery buildings along the River Nore.

Further upstream and closer to the confluence of the Breagh River, Elder was more abundant along with Birch saplings (*Betula pendula*), Snowberry (*Symphoricarpos albus*) and Butterfly bush (*Buddleja davidii*). A small stand of Japanese Knotweed (*Fallopia japonica*) was recorded outside the site on the river bank close to the waters edge at NGR: S 50573 56400.

Moving north of the confluence of the Breagh River with the Nore main channel, there is an area of disturbed ground which is currently under construction with the Kilkenny Central Access Scheme (CAS). There is a small area of riparian woodland comprised of predominantly Willow, see Photo 3. This bankside vegetation continues on the north side of Green's Bridge along the river edge. The bankside is more floristically diverse in this area albeit with more non-native species present including Buddleja, Cotoneaster and Snowberry. Other species include Dogwood (*Cornus sanguinea*), Cleavers (*Galium aparine*), Red valerian (*Centranthus ruber*), Knotgrass (*Polygonum aviculare*), Butterbur (*Petasites hybridus*), Tufted vetch (*Vicia cracca*), Rosebay willowherb (*Chamerion angustifolium*), Nettle (*Urtica dioica*), Red clover (*Trifolium pratense*), Ribwort plantain (*Plantago lanceolata*) Water mint (*Mentha aquatica*), Reed Sweet-grass (*Glyceria maxima*) and Common Club-rush (*Schoenoplectus lacustris*).



Photo 3. Showing the bankside vegetation south of Green's Bridge.



Photo 4. Showing the bankside vegetation to the north of Green's Bridge.

There are areas of amenity grassland at Green Street which is surrounded by hedges of Guelder rose (*Viburnum opulus*) and Rose (*Rosa canina* agg.) as well as at the southern end of the proposed walk where the old tearoom at Bateman's Quay is currently being redeveloped.

4.3. FAUNA

4.3.1. Mammals

Bats

Bats are protected by law (Wildlife Act (1976), Wildlife (Amendment) Act 2000 and the Habitats Directive (Council Directive No. 97/62/EC of 27 October 1997 (amending Council Directive No. 92/43/EEC of 21 May 1992)). In order to comply with legislation that bats are not killed or injured, it is essential to ensure that measures to reduce risk to bats are undertaken or that the presence of bats can be ruled out.

A bat detector survey was carried out on the evening of 22nd September 2015 as part of the present survey. The night-time survey was undertaken using a Pettersson D230 Heterodyne Bat Detector between 19:30 and 23:00. The evening was dry with the temperature dropping from 17°C to 11°C in the course of the survey.

The first bats were recorded almost straight away as distant calls from Daubenton's Bats upstream of Greens Bridge. The surveyor moved along the river bank in the Peace Park at St. John's Quay opposite the brewery site. Several Daubenton's bats were recorded flying along the river corridor from the direction of Greens' Bridge downstream and returning to the Green's Bridge area. At 20:07 two Common Pipistrelle (*Pipistrellus pipistrellus*) were recorded in the vicinity of the mouth of the Breagh River. The survey continued in the West Bank section of the Nore Linear Park near Riverside Drive. The predominant species recorded in this area was Daubenton's bats.

These results compare similarly with the results of a survey undertaken by the same author for the proposed demolition works of the brewery buildings. During that survey undertaken in May 2012, all buildings to be demolished were assessed in so far as accessibility allowed to roof spaces and crevices. A night-time survey was undertaken using a Pettersson D230 Heterodyne Bat Detector between 21:30 and 23:30. The evening was dry for the most part with showers occurring toward the end of the survey, with the temperature dropping from 15C to 11C in the course of the survey. There were no signs of bats either inside the buildings to be demolished or on the outside walls in terms of droppings or urine stains.

The outdoor survey commenced along the River Nore to the rear of the site. However, no records were obtained on this section of the site. Particular attention was paid to a bat box which had been erected

by the previous site environmental manager, however, the back wall is lit at night and the bat box is partly facing the buildings so it is unlikely that it is being used.

Records of bats flying within the site were taken later in three areas. The first bat, a Soprano Pipistrelle (*Pipistrellus pygmaeus*) was recorded at 22:00 flying into the site from the direction of the Market Yard car park to the south. A single Soprano Pipistrelle (*Pipistrellus pygmaeus*) was recorded flying inside the ruin of St. Francis' Abbey at 22:10. The third record, a Common Pipistrelle (*Pipistrellus pipistrellus*) was recorded at 22:15 flying east along the Breagagh River corridor. After checking the Garage area, another record of the Common Pipistrelle was taken at 22:20 flying over the confluence of the Breagagh and the Nore, possibly the same bat. The site was surveyed until 23:30 when light showers occurred. The Soprano Pipistrelle recorded at the southern end of the site outside the 'Bottling Hall' was recorded up until that time.

The area around Green's Bridge was surveyed as part of the Central Access Scheme for the City of Kilkenny EIS 2011. Bat species recorded included Common and Soprano Pipistrelles, Leisler's Bats flying high over the River Nore and Daubenton's bats were recorded on the River Nore but not the Breagagh River.

The teahouse previously mentioned at Bateman's Quay was undergoing repair work during the present survey and prior to these works a bat survey was carried out by Brian Keely. The results of his survey in May 2015 found that all three species recorded in the present survey were present on the river corridor earlier that summer; Common and Soprano Pipistrelles and Daubenton's bats further upstream. This compares similarly with the present survey.

Otters

Otters are a qualifying interest for the River Barrow and River Nore SAC and are protected under Annex II of the Habitats Directive and their resting place is fully protected and any interference with a holt or access to it is prohibited except under an EU derogation. Otters have been recorded previously on the Breagagh River, however, no holts or signs were observed on the river side habitats of the site during the present survey.

There are records on the National Biodiversity Data Centre database for otters both upstream of Green's Bridge and downstream of John's Bridge. An otter was sighted on 11/11/2013 upstream of Green's Bridge and sightings from 30/05/2012, 20/08/2013 in the vicinity of John's Bridge and on 03/12/2014 at Lacken Weir downstream of Kilkenny Castle.

4.3.2. Fish

Atlantic salmon are listed on Annex II of the EU Habitats Directive, and are protected under national legislation as an important fisheries resource. They are vulnerable to pollution and morphological disturbance of rivers, and of sedimentation of spawning beds (which are often in gravelly river beds).

Atlantic salmon are a qualifying interest for the River Barrow and River Nore SAC. Brown trout and eel have been recorded in the Breagh River.

The presence of lamprey in the River Nore is well recorded in NPWS data sets. The presence of lamprey is significant as these species are protected under the Habitats Directive. All three Irish lamprey species are listed on Annex II of the European Union Habitats Directive (92/43/EEC).

Monitoring of the Breagh River has been ongoing since remedial works were carried out in 2001-2002 to mitigate a PCB pollution event in 1980. The most recent results suggest that the water quality of the Breagh River has not changed in the past 5 years of monitoring.

4.3.3. Birds

All species of birds are protected under the Wild life Act 1976/Wild life Amendment Act 2000. As previously mentioned, the River Nore is designated for the presence of Kingfisher. However, there are no suitable nesting sites in the vicinity of the project site.

Species recorded were typical of an urban habitat; Crow, Magpie, Pigeon and Pied wagtail. The river bank treeline to the rear of the brewery site has been used for nesting by Hooded crows. There were no sighting of Kingfisher during the present survey.

4.4. HABITAT EVALUATION

The ecological value of the walkway location was assessed following the guidelines set out in the Institute of Ecology and Environmental Management's Guidelines for Ecological Impact Assessment (2006) and according to the Natura Scheme for evaluating ecological sites (after Nairn & Fossitt, 2004). Judgements on the evaluation were made using geographic frames of reference, e.g. European, National, Regional or Local.

The general walkway footprint habitats in the brewery site are of relatively low local ecological value. The area of highest conservation value is that of the hydrological connection to the River Nore.

The river corridor is considered a green corridor and provides a pathway for protected species such as Salmon, Otters and Kingfisher. Additionally it provides a foraging habitat for at least three species of bats.

5. ASSESSMENT OF IMPACTS

5.1. DIRECT IMPACTS

There will be no direct impact on Natura 2000 sites. The potential for impacts on these sites was considered in the Appropriate Assessment Screening Report compiled for the project. It was concluded from screening that there would be no adverse effects on site integrity resulting from the project and that there would be no significant effects, no potentially significant effects and no uncertain effects if the project were to proceed.

The demolition of the brewery buildings may leave the Poplar treeline along the river bank open to damage from wind throw and so it is proposed to cut these tall top heavy trees. The root bases will be retained *in situ* in order to maintain the stability of the bank and existing bankside vegetation.

Bankside vegetation will be supplemented with additional low growing shrubs. This will require the importation of additional topsoil to the upper bank in order to merge with the proposed river walk habitats.

5.2. INDIRECT IMPACTS

A worst case scenario could possibly occur if there were significant impacts on the River Nore. There are no rare or protected habitats under the footprint of the proposed walkway, but the species for which the River Nore is designated require a high degree of water quality. Therefore any impacts that could affect the water quality of the river need to be avoided including potentially elevated suspended solids and pollution from hydrocarbons or any other waste that would decrease oxygen levels or cause eutrophication or in the worst case mortality. The effect would have to be considered in terms of changes in water quality which would affect salmonids or food sources of otters or Kingfisher in the river and this can be avoided through standard best practice construction management.

While no bat roosts will be affected by the proposed development, the opening of the river corridor and the introduction of urban street lighting could have an impact on commuting and foraging bats. However, this can be mitigated by light design and direction.

5.3. CUMULATIVE IMPACTS

Cumulative impacts or effects are changes in the environment that result from numerous human-induced, small-scale alterations. Cumulative impacts can be thought of as occurring through two main pathways: first, through persistent additions or losses of the same materials or resource, and second, through the compounding effects as a result of the coming together of two or more effects.

As part of the Screening for an Appropriate Assessment, in addition to the proposed works, other relevant projects and plans in the region were considered. This step aims to identify at this early stage any possible significant in-combination or cumulative effects / impacts of the proposed development with other such plans and projects on the Natura 2000 sites.

There is one other significant project, namely, the Kilkenny Central Access Scheme in the north of the study area. An EIS for the scheme was completed in 2011 and a Natura Impact Statement produced for the scheme. The Natura Impact Statement outlines a number of mitigation measures that need to be employed during the construction phase and the operation phase of the scheme. The NIS established that if those mitigation measures are employed; there should be no significant impact on the River Nore.

Within the St. Francis Brewery site, the demolition programme of certain buildings no longer in operation by the previous occupants will have commenced by the time this report is submitted. Moore Group compiled an AA Screening Report for the demolition process and found that with best practice there would be no significant impacts on the River Nore European Sites and as such there would be no in-combination effects with regard to the proposed development.

Any new applications for the project area will be assessed on a case by case basis by Kilkenny County Council which will determine the requirement for AA Screening as per the requirements of Article 6(3) of the Habitats Directive.

6. MITIGATION MEASURES

Standard Best Practice Construction measures will be employed to ensure that no pollutant construction materials such as sand, cement, concrete or waste water would enter the River Nore during the construction phase. This Best Practice will be outlined in a draft Construction Environmental Management Plan which has been prepared by the Landscape Architects for the Project. It will be a requirement of the contract for the development of the park that the contractor will develop and implement the Construction Environmental Management Plan.

Standard pollution avoidance measures will include as a minimum the following measures:

- Prior to any works commencing, surface site drainage and silt control measures will be established. No run-off from machine servicing or concrete mixing areas will be allowed to enter water courses.
- Works such as soil excavations, soil depositing or soil stripping will not be conducted during or immediately following periods of heavy or prolonged rainfall.

- Any construction work that involves the pouring of concrete shall be done during dry conditions. Pumped concrete should be monitored carefully to ensure no accidental discharge to water courses. Mixer washings or excess concrete should not be discharged to water courses.
- Fuels, lubricants and hydraulic fluids for equipment used on the construction site should be carefully handled to avoid spillage, properly secured against unauthorised access or vandalism, and provided with spill containment according to best practice.
- Fuelling and lubrication of equipment should not be carried out on sites close to water courses, a minimum distance of 10 m will be observed where practicable.
- Any spillage of fuels, lubricants or hydraulic oils should be immediately contained and the contaminated soil removed from the site and properly disposed of. Emergency spill kits should be available on site.
- Vegetation cutting will be carried out only outside the bird-nesting season March 1st – August 31st in order to avoid impacts on nesting birds.

A suitably qualified ecologist will be employed to review the Construction Environmental Management Plan and will visit the site during site preparation and during the construction works to meet the contractor and review how the plan measures are being implemented.

With regard to bats, all lighting proposed for the walkway will be low lux emitting lights and the street lighting design will include measures to direct the light away from both the River Breagagh and River Nore. The Landscape Architect have modelled the proposed lighting scheme and have determined that that the light spillage onto the river will be low (< 1 lux).

It was noted by the author that the existing street lighting in the Peace Park on the opposite bank and the street lighting in the Nore Linear Park near Riverside Drive do not appear to have an impact on commuting bats along the river corridor.

Once the park has been established the Council may consider the use of artificial bat roosts similar to those suggested for the refurbishment of the teahouse. External bat boxes such as the Schwegler 'Woodcrete' bat box could be erected on the southern face of mature trees. This would allow bats to roost in a site that could be monitored from outside.

7. RESIDUAL IMPACTS

Residual impacts are those that occur after the mitigation measures have taken effect. If the mitigation measures listed above are employed during construction, then there will be no residual impact on the River Nore.

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