

EIRSPAN BRIDGE MANAGEMENT SYSTEM

Task Order No. 265

Reactive Maintenance Works at Enniscorthy Bridge

Nature Impact Statement

August 2019

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Appendix A Freshwater Pearl Mussel Report 2018

1. INTRODUCTION

Roughan & O'Donovan (ROD) was appointed by Transport Infrastructure Ireland (TII) to provide services relating to Appropriate Assessment of reactive maintenance works at Enniscorthy Bridge, Co. Wexford [WX-N11-005.00].

The Eirspan Bridge Management System covers all aspects of bridge management including routine maintenance. Over the past number of years routine maintenance contracts have been undertaken by private contractors under Bridge Term Maintenance contracts.

This contract will run until 2021, where it is intended to carry out annual routine maintenance work between the 1st March and the 30th September in each of the years 2018, 2019, 2020 and 2021, with a defects period extending for a further year. The contract requires an element of reactive maintenance to address bridge strikes, defects discovered on removal of vegetation and other non-planned works during the contract term.

In accordance with Article 6(3) of Council Directive 92/43/EEC of 21 August 1992 on the conservation of natural habitats and of wild fauna and flora ("the Habitats Directive"), as transposed into Irish law by Part 5 of the European Communities (Birds and Natural Habitats) Regulations, 2011 (as amended) ("the Habitats Regulations") and Part XAB of the Planning and Development Act, 2000 (as amended) ("the Planning and Development Act"), this Natura Impact Statement (NIS) has been prepared by ROD on behalf of TII, as the competent authority, to assess whether or not the reactive maintenance works at the Enniscorthy Bridge, either individually or in combination with other plans or projects, was likely to have an adverse effect on one or more sites of Community importance ("European sites") for nature conservation.

This document comprises the NIS in respect of the reactive maintenance works and has been prepared by ROD on behalf of TII. It contains an examination, analysis and evaluation of the potential impacts from the works, both individually and in combination with other plans and projects, in view of best scientific knowledge and the Conservation Objectives of the European sites concerned. It also prescribes appropriate mitigation to ensure that the works will not adversely affect the integrity of those sites. Finally, it provides complete, precise and definitive findings which are capable of removing all reasonable scientific doubt as to the absence of adverse effects on the integrity of the European sites concerned.

2. ENISCORTHY BRIDGE [WX-N11-005.00]

Enniscorthy Bridge is a four-span masonry arch bridge carrying the N11 over the River Slaney in Enniscorthy, Co. Wexford. The average width of the river at the bridge location is 19m and the average depth is 0.6m. Plate 1 below shows the location of the bridge.



Plate 1.

3. PROPOSED WORKS

A vehicle struck the parapet between the yield sign and the steel bar, causing long cracks to appear on the river-face of the parapet between, shown in Plate 2 and Plate 3 below. The following reactive maintenance works are proposed to repair the damage:

- Repair of the parapet extending from the natural joint (bend) near the structure I.D. and yield sign to the steel bar that is holding the lightning pole (18.90 m in total).
- The parapet will have to be rebuilt from the existing flagstone from the footpath to the capping (total quantity: $18.90 \text{ m} \times 0.45 \text{ m} \times 1.10 \text{ m} = 9.36 \text{ m}^3$).
- The works will require the erection of a scaffold in the river.
- The works will require temporary traffic management for vehicles (1 lane closure) and vulnerable road users.

The duration of the works will be no more than two months. Plates 2 to 4 below show the works area.



Plate 2.



Plate 3.



Plate 4.

4. IDENTIFICATION OF ADVERSE EFFECTS

Section 3.2.3 of DEHLG (2010) outlines the procedure for selecting the European sites to be considered in AA. It states that European sites potentially affected should be identified and listed, bearing in mind the potential for direct, indirect and cumulative effects. It also states that the specific approach in each case is likely to differ depending on the scale and likely effects of the plan or project. In this case, the likely zone of impact was considered to be all European sites within 500m of the works, plus 2km downstream of the works. There are two European sites within the likely zone of impact, namely the:

- Slaney River Valley SAC [000781]; and,
- Wexford Harbour and Slobs SPA [004076].

The River Slaney forms part of the Slaney River Valley SAC at the location of the works. The bridge is located 1.2 km upstream of the Wexford Harbour and Slobs SPA, which encompasses much of the tidal reaches of the River Slaney. The two European sites concerned are summarized below.

Slaney River Valley SAC

Site Overview

The Slaney River Valley SAC comprises the freshwater stretches of the River Slaney (a major river that drains much of the south-east region) as far as the Wicklow Mountains flowing through the Counties of Wicklow, Wexford and Carlow. The tidal and freshwater boundary of the River Slaney is defined as the Old Bridge in Enniscorthy. However, Inland Fisheries Ireland advises that there is no saline influence at Enniscorthy and that this is the case for some distance downstream, until Mackmine Bridge. The site supports populations of several species listed on Annex II to the Habitats Directive, and habitats listed on Annex I of this Directive, as well as important numbers of wintering wildfowl including some species listed on Annex I to the Birds Directive. The presence of wet and broadleaved woodlands increases the overall habitat diversity and the occurrence of a number of Red Data Book plant and animal species adds further importance to the site. Overall, it is of considerable conservation significance.

Qualifying Interests (* = “priority habitat” in danger of disappearing from the EU)

- [1130] Estuaries
- [1140] Mudflats and sandflats not covered by seawater at low tide
- [1330] Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*)
- [1410] Mediterranean salt meadows (*Juncetalia maritimi*)
- [3260] Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation
- [91A0] Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles
- [91E0] *Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion*, *Alnion incanae*, *Salicion albae*)
- [1029] Freshwater Pearl Mussel (*Margaritifera margaritifera*)
- [1095] Sea Lamprey (*Petromyzon marinus*)
- [1096] Brook Lamprey (*Lampetra planeri*)
- [1099] River Lamprey (*Lampetra fluviatilis*)
- [1103] Twaite Shad (*Alosa fallax*)
- [1106] Atlantic Salmon (*Salmo salar*)
- [1355] Otter (*Lutra lutra*)

[1365] Common (Harbour) Seal (*Phoca vitulina*)

Pressures on/Threats to the Site

The greatest pressures/threats to the integrity of the Slaney River Valley SAC come from agriculture, fishing, and industrial activities. The spreading of slurry and fertiliser poses a threat to the water quality of this salmonid river and to the populations of Annex II species within it. The spread of exotic species is reducing the quality of the woodlands within the site.

Wexford Harbour Slobs SPA

Site Overview

Wexford Harbour is the lowermost part of the estuary of the River Slaney. The site is divided between the natural estuarine habitats of Wexford Harbour, the reclaimed polders known as the North and South "Slobs" and the tidal section of the River Slaney. The seaward boundary extends from the Rosslare peninsula in the south to the area just west of The Raven point in the north. Shallow marine water is a principal habitat, but at low tide extensive areas of intertidal flats are exposed. Wexford Harbour and Slobs SPA is one of the top three sites in the country for numbers and diversity of wintering birds. The combination of estuarine habitats, including shallow waters for grebes, diving ducks and sea ducks, and the farmland of the polders, which include freshwater drainage channels, provides optimum feeding and roost areas for a wide range of species.

Qualifying Interests

- [A004] Little Grebe (*Tachybaptus ruficollis*)
- [A005] Great Crested Grebe (*Podiceps cristatus*)
- [A017] Cormorant (*Phalacrocorax carbo*)
- [A028] Grey Heron (*Ardea cinerea*)
- [A037] Bewick's Swan (*Cygnus columbianus bewickii*)
- [A038] Whooper Swan (*Cygnus cygnus*)
- [A046] Light-bellied Brent Goose (*Branta bernicla hrota*)
- [A048] Shelduck (*Tadorna tadorna*)
- [A050] Wigeon (*Anas penelope*)
- [A052] Teal (*Anas crecca*)
- [A053] Mallard (*Anas platyrhynchos*)
- [A054] Pintail (*Anas acuta*)
- [A062] Scaup (*Aythya marila*)
- [A067] Goldeneye (*Bucephala clangula*)
- [A069] Red-breasted Merganser (*Mergus serrator*)
- [A082] Hen Harrier (*Circus cyaneus*)
- [A125] Coot (*Fulica atra*)
- [A130] Oystercatcher (*Haematopus ostralegus*)
- [A140] Golden Plover (*Pluvialis apricaria*)
- [A141] Grey Plover (*Pluvialis squatarola*)
- [A142] Lapwing (*Vanellus vanellus*)
- [A143] Knot (*Calidris canutus*)
- [A144] Sanderling (*Calidris alba*)

- [A149] Dunlin (*Calidris alpina*)
- [A156] Black-tailed Godwit (*Limosa limosa*)
- [A157] Bar-tailed Godwit (*Limosa lapponica*)
- [A160] Curlew (*Numenius arquata*)
- [A162] Redshank (*Tringa totanus*)
- [A179] Black-headed Gull (*Chroicocephalus ridibundus*)
- [A183] Lesser Black-backed Gull (*Larus fuscus*)
- [A195] Little Tern (*Sterna albifrons*)
- [A395] Greenland White-fronted Goose (*Anser albifrons flavirostris*)
- [A999] Wetland and Waterbirds

Pressures on/Threats to the Site

The greatest pressures/threats to the integrity of the Wexford Harbour and Slobs SPA come from fertilisation, aquaculture, grazing and hunting. Roads, urbanisation and human recreational activities also act as pressures on this site.

Evaluation against Conservation Objectives

The identification of adverse effects potentially arising from the reactive maintenance works on the integrity of the European sites identified above focusses on and is limited to the Conservation Objectives of those sites.

Tables 4.1 and 4.2 below detail the identification of potential adverse effects on the sites concerned. In considering the potential for adverse effects on the Conservation Objectives for each Qualifying Interest in each European site, regard was had to the Attributes and Targets which define each site-specific Conservation Objective.

Table 4.1 Evaluation of the likely effects of the proposed reactive maintenance works in view of the Conservation Objectives of the Wexford Harbour and Slobs SPA [004076].

Qualifying Interest	Conservation Objective as per NPWS (2012)	Do the proposed reactive maintenance works provide for any delay or interruption in the achievement of this Conservation Objective, as defined by its Attributes and Targets?	Adverse Effect
Little Grebe (<i>Tachybaptus ruficollis</i>) [A004]	<i>"To maintain the favourable conservation condition of Little Grebe in Wexford Harbour and Slobs SPA"</i>	The Enniscorthy Bridge is 1.2km upstream of the SPA boundary. The works provide for potential water quality impacts which may lead to a reduction in habitat quality and in turn affect the distribution of these species. Therefore, adverse effects on the Conservation Objectives for these Qualifying Interests as a result of the works cannot be ruled out at this stage.	Yes
Great Crested Grebe (<i>Podiceps cristatus</i>) [A005]	<i>"To maintain the favourable conservation condition of Great Crested Grebe in Wexford Harbour and Slobs SPA"</i>		
Cormorant (<i>Phalacrocorax carbo</i>) [A017]	<i>"To maintain the favourable conservation condition of Cormorant in Wexford Harbour and Slobs SPA"</i>		
Grey Heron (<i>Ardea cinerea</i>) [A028]	<i>"To maintain the favourable conservation condition of Grey Heron in Wexford Harbour and Slobs SPA"</i>		
Bewick's Swan (<i>Cygnus columbianus bewickii</i>) [A037]	<i>"To maintain the favourable conservation condition of Bewick's Swan in Wexford Harbour and Slobs SPA"</i>		
Whooper Swan (<i>Cygnus cygnus</i>) [A038]	<i>"To maintain the favourable conservation condition of Whooper Swan in Wexford Harbour and Slobs SPA"</i>		
Light-bellied Brent Goose (<i>Branta bernicla hrota</i>) [A046]	<i>"To maintain the favourable conservation condition of Light-bellied Brent Goose in Wexford Harbour and Slobs SPA"</i>		
Shelduck (<i>Tadorna tadorna</i>) [A048]	<i>"To maintain the favourable conservation condition of Shelduck in Wexford Harbour and Slobs SPA"</i>		
Wigeon (<i>Anas penelope</i>) [A050]	<i>"To maintain the favourable conservation condition of Wigeon in Wexford Harbour and Slobs SPA"</i>		
Teal (<i>Anas crecca</i>) [A052]	<i>"To maintain the favourable conservation condition of Teal in Wexford Harbour and Slobs SPA"</i>		

Qualifying Interest	Conservation Objective as per NPWS (2012)	Do the proposed reactive maintenance works provide for any delay or interruption in the achievement of this Conservation Objective, as defined by its Attributes and Targets?	Adverse Effect
Mallard (<i>Anas platyrhynchos</i>) [A053]	<i>"To maintain the favourable conservation condition of Mallard in Wexford Harbour and Slobs SPA"</i>	As above.	Yes
Pintail (<i>Anas acuta</i>) [A054]	<i>"To maintain the favourable conservation condition of Pintail in Wexford Harbour and Slobs SPA"</i>		
Scaup (<i>Aythya marila</i>) [A062]	<i>"To maintain the favourable conservation condition of Scaup in Wexford Harbour and Slobs SPA"</i>		
Goldeneye (<i>Bucephala clangula</i>) [A067]	<i>"To maintain the favourable conservation condition of Goldeneye in Wexford Harbour and Slobs SPA"</i>		
Red-breasted Merganser (<i>Mergus serrator</i>) [A069]	<i>"To maintain the favourable conservation condition of Red-breasted Merganser in Wexford Harbour and Slobs SPA"</i>		
Coot (<i>Fulica atra</i>) [A125]	<i>"To maintain the favourable conservation condition of Coot in Wexford Harbour and Slobs SPA"</i>		
Oystercatcher (<i>Haematopus ostralegus</i>) [A130]	<i>"To maintain the favourable conservation condition of Oystercatcher in Wexford Harbour and Slobs SPA"</i>		
Golden Plover (<i>Pluvialis apricaria</i>) [A140]	<i>"To maintain the favourable conservation condition of Golden Plover in Wexford Harbour and Slobs SPA"</i>		
Grey Plover (<i>Pluvialis squatarola</i>) [A141]	<i>"To maintain the favourable conservation condition of Grey Plover in Wexford Harbour and Slobs SPA"</i>		
Lapwing (<i>Vanellus vanellus</i>) [A142]	<i>"To maintain the favourable conservation condition of Lapwing in Wexford Harbour and Slobs SPA"</i>		
Knot (<i>Calidris canutus</i>) [A143]	<i>"To maintain the favourable conservation condition of Knot in Wexford Harbour and Slobs SPA"</i>		

Qualifying Interest	Conservation Objective as per NPWS (2012)	Do the proposed reactive maintenance works provide for any delay or interruption in the achievement of this Conservation Objective, as defined by its Attributes and Targets?	Adverse Effect
Sanderling (<i>Calidris alba</i>) [A144]	<i>"To maintain the favourable conservation condition of Sanderling in Wexford Harbour and Slobs SPA"</i>	As above.	Yes
Dunlin (<i>Calidris alpina</i>) [A149]	<i>"To maintain the favourable conservation condition of Dunlin in Wexford Harbour and Slobs SPA"</i>		
Black-tailed Godwit (<i>Limosa limosa</i>) [A156]	<i>"To maintain the favourable conservation condition of Black-tailed Godwit in Wexford Harbour and Slobs SPA"</i>		
Bar-tailed Godwit (<i>Limosa lapponica</i>) [A157]	<i>"To maintain the favourable conservation condition of Bar-tailed Godwit in Wexford Harbour and Slobs SPA"</i>		
Curlew (<i>Numenius arquata</i>) [A160]	<i>"To maintain the favourable conservation condition of Curlew in Wexford Harbour and Slobs SPA"</i>		
Redshank (<i>Tringa totanus</i>) [A162]	<i>"To maintain the favourable conservation condition of Redshank in Wexford Harbour and Slobs SPA"</i>		
Black-headed Gull (<i>Chroicocephalus ridibundus</i>) [A179]	<i>"To maintain the favourable conservation condition of Black-headed Gull in Wexford Harbour and Slobs SPA"</i>		
Lesser Black-backed Gull (<i>Larus fuscus</i>) [A183]	<i>"To maintain the favourable conservation condition of Lesser Black-backed Gull in Wexford Harbour and Slobs SPA"</i>		
Greenland White-fronted Goose (<i>Anser albifrons flavirostris</i>) [A395]	<i>"To maintain the favourable conservation condition of Greenland White-fronted Goose in Wexford Harbour and Slobs SPA"</i>		
Hen Harrier (<i>Circus cyaneus</i>) [A082]	<i>"To maintain the favourable conservation condition of Hen Harrier in Wexford Harbour and Slobs SPA"</i>	The works are >22 km upstream of the Hen Harrier winter roost in Wexford Harbour, which is not hydrologically connected to the works. The works will therefore not lead to an increase in disturbance to the roost, or, the area of suitable habitat within the roost. The habitat in the area of the works is urban and not suitable foraging habitat for Hen Harrier. Therefore, it can be concluded beyond reasonable scientific doubt that the reactive maintenance works will not have an adverse effect on the Conservation Objectives for this Qualifying Interest.	No

Qualifying Interest	Conservation Objective as per NPWS (2012)	Do the proposed reactive maintenance works provide for any delay or interruption in the achievement of this Conservation Objective, as defined by its Attributes and Targets?	Adverse Effect
Little Tern (<i>Sterna albifrons</i>) [A195]	<i>"To maintain the favourable conservation condition of Little Tern at Wexford Harbour and Slobs SPA"</i>	<p>Little Tern nest on the sand banks at the mouth of Wexford Harbour c.28km downstream of the works and feed along the coast and within the lower reaches of the River Slaney. Based to the distance between the works and the Little Tern nesting habitats it can be concluded beyond reasonable scientific doubt that the works will not have an adverse effect number, distribution or productivity of the breeding colonies.</p> <p>The works provide for potential water quality impacts, however based on the distance between the works and the lower reaches of the River Slaney and the scale of the works, any accidental pollution events would not be perceptible >20km downstream and in an area frequently inundated by the tide. Therefore, it can be concluded beyond reasonable scientific doubt that the reactive maintenance works will not have an adverse effect on the Conservation Objectives for this Qualifying Interest.</p>	No
Wetland and Waterbirds [A999]	<i>"To maintain the favourable conservation condition of the wetland habitat in Wexford Harbour and Slobs SPA as a resource for the regularly occurring migratory waterbirds that utilise it"</i>	The bridge where the reactive maintenance works are taking place is 1.2km upstream of the SPA boundary, and, this Qualifying Interest. The works do not provide for any decrease in wetland area. Therefore, it can be concluded beyond reasonable scientific doubt that the reactive maintenance works will not have an adverse effect on the Conservation Objectives for this Qualifying Interest.	No

Table 4.2 Evaluation of the likely effects of the proposed reactive maintenance works in view of the Conservation Objectives of the Slaney River Valley SAC [000781].

Qualifying Interest	Conservation Objective as per NPWS (2011)	Do the proposed reactive maintenance works provide for any potential delay or interruption in the achievement of this Conservation Objective, as defined by its Attributes and Targets?	Adverse Effect
Estuaries [1130]	<i>“To maintain the favourable conservation condition of Estuaries in the Slaney River Valley SAC”</i>	This habitat is present at the location of the reactive maintenance works and downstream of the works. The works may provide for potential water quality impacts which may affect this Qualifying Interest. Therefore, adverse effects on the Conservation Objectives for this Qualifying Interest as a result of the proposed works cannot be ruled out at this stage.	Yes
Mudflats and sandflats not covered by seawater at low tide [1140]	<i>“To maintain the favourable conservation condition of Mudflats and sandflats not covered by seawater at low tide in the Slaney River Valley SAC”</i>	This habitat is found c. 22km downstream of the works. The works provide for potential water quality impacts, however based on the distance between the works and this Qualifying Interest and the scale of the works, any accidental pollution events would not be perceptible >20km downstream. Therefore, it can be concluded beyond reasonable scientific doubt that the reactive maintenance works will not have an adverse effect on the Conservation Objectives for this Qualifying Interest.	No
Atlantic salt meadows (<i>Glaucopuccinellietalia maritimae</i>) [1330]	NPWS (2011) does not contain Conservation Objectives for these Qualifying Interests. In accordance with advice previously given by the NPWS, the Conservation Objectives for the River Barrow and River Nore SAC are used in this assessment.	These habitats occur around Castlebridge c. 20km downstream of the works. The works provide for potential water quality impacts, however based on the distance between the works and this Qualifying Interest and the scale of the works, any accidental pollution events would not be perceptible >20km downstream. Therefore, it can be concluded beyond reasonable scientific doubt that the reactive maintenance works will not have an adverse effect on the Conservation Objectives for this Qualifying Interest.	No
Mediterranean salt meadows (<i>Juncetalia maritimi</i>) [1410]			
Water courses of plain to montane levels with the <i>Ranunculon fluitantis</i> and <i>Callitricho-Batrachion</i> vegetation [3260]	<i>“To maintain the favourable conservation condition of Water courses of plain to montane levels with the <i>Ranunculon fluitantis</i> and <i>Callitricho-Batrachion</i> vegetation in the Slaney River Valley SAC”</i>	This habitat is not located within the works area. however, the tidal subtype is present downstream. The works do not provide for changes to the distribution, habitat area or hydrological regime of this Qualifying Interest. Therefore, adverse effects on the Conservation Objectives for these Qualifying Interests as a result of the works cannot be ruled out at this stage.	No
Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles [91A0]	<i>“To restore the favourable conservation condition of old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the Slaney River Valley SAC”</i>	These habitat types do not occur within or adjacent to the likely zone of impact of the proposed works and there are no pathways which could convey impacts from the reactive maintenance works to any examples of these habitat types. Thus, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the Conservation Objectives for these Qualifying Interests.	No

Qualifying Interest	Conservation Objective as per NPWS (2011)	Do the proposed reactive maintenance works provide for any potential delay or interruption in the achievement of this Conservation Objective, as defined by its Attributes and Targets?	Adverse Effect
Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (Alno-Padion, <i>Alnion incanae</i>, <i>Salicion albae</i>) [91E0]	<i>"To restore the favourable conservation condition of Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion) in the Slaney River Valley SAC"</i>		
Freshwater Pearl Mussel (<i>Margaritifera margaritifera</i>) [1029]	<i>"The status of the freshwater pearl mussel (<i>Margaritifera margaritifera</i>) as a qualifying Annex II species for the Slaney River Valley SAC is currently under review. The outcome of this review will determine whether a site-specific conservation objective is set for this species."</i>	A survey was carried out within 50m of the Enniscorthy Bridge in 2018 (Appendix A). No Freshwater Pearl Mussel were recorded in the area. The species is potentially downstream, and the works may provide for potential water quality impacts which may affect this Qualifying Interest. Therefore, adverse effects on the Conservation Objectives for this Qualifying Interest (whether they are to restore or maintain favourable conservation status) as a result of the proposed works cannot be ruled out at this stage.	Yes
Sea Lamprey (<i>Petromyzon marinus</i>) [1095]	<i>"To restore the favourable conservation condition of Sea lamprey in the Slaney River Valley SAC"</i>	These species are all dependent on water quality and are considered likely to be present in the habitats in close proximity to the proposed works. Therefore, there are pathways for impacts for potential water quality impacts from the works to these species. Light spill onto the water also has the potential to affect the migratory behaviour of these species. Thus, adverse effects on the Conservation Objectives for these Qualifying Interests cannot be ruled out at this stage.	Yes
Brook Lamprey (<i>Lampetra planeri</i>) [1096]	<i>"To restore the favourable conservation condition of Brook lamprey in the Slaney River Valley SAC"</i>		
River Lamprey (<i>Lampetra fluviatilis</i>) [1099]	<i>"To restore the favourable conservation condition of River lamprey in the Slaney River Valley SAC"</i>		
Twaite Shad (<i>Alosa fallax fallax</i>) [1103]	<i>"To restore the favourable conservation condition of Twaite shad in the Slaney River Valley SAC"</i>		

Qualifying Interest	Conservation Objective as per NPWS (2011)	Do the proposed reactive maintenance works provide for any potential delay or interruption in the achievement of this Conservation Objective, as defined by its Attributes and Targets?	Adverse Effect
Atlantic Salmon (<i>Salmo salar</i>) [1106]	<i>"To restore the favourable conservation condition of Salmon in the Slaney River Valley SAC"</i>		
European Otter (<i>Lutra lutra</i>) [1355]	<i>"To restore the favourable conservation condition of Otter in the Slaney River Valley SAC"</i>	Otter are present in Enniscorthy; however, no holts or couches were identified during the survey in 2018. Water quality impacts which may affect the conservation status of species upon which otters feed may constitute a significant reduction in prey availability. The ambient noise levels in Enniscorthy mean the works will not lead to increased barrier to connectivity, however additional lighting during the works, especially at night, may constitute a temporary barrier to connectivity. Therefore, adverse effects on the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	Yes
Harbour Seal (<i>Phoca vitulina</i>) [1365]	<i>"To maintain the favourable conservation condition of Harbour Seal in the Slaney River Valley SAC"</i>	Harbour Seal haul out on the sand banks in Wexford Harbour c. 28km downstream. The works do not provide for any increase in disturbance, changes in moulting, resting or breeding behaviour, or, access to suitable habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the works will not adversely affect the Conservation Objectives for Harbour Seal.	No

5. SUMMARY OF ADVERSE EFFECTS

In Section 4.0, it was established that two European sites occur within the likely zone of impact and that there are no pathways for effects between the works and any other European sites. It was established that, in the absence of appropriate mitigation, interruptions or delays in achieving certain Conservation Objectives of both of the sites, i.e. adverse effects on the integrity of those sites, as a result of the reactive maintenance works, cannot be ruled out. A list of the Qualifying Interests where adverse effects could not be excluded are presented in Table 5.1 below.

Table 5.1 Summary of the European sites likely to be affected by the proposed reactive maintenance works and the Qualifying Interests likely to be affected in each site.

European site	Qualifying Interest
Slaney River Valley SAC	[1130] Estuaries [1095] Sea Lamprey (<i>Petromyzon marinus</i>) [1099] River Lamprey (<i>Lampetra fluviatilis</i>) [1096] Brook Lamprey (<i>Lampetra planeri</i>) [1103] Twaite Shad (<i>Alosa fallax fallax</i>) [1106] Atlantic Salmon (<i>Salmo salar</i>) [1355] European Otter (<i>Lutra lutra</i>) [1029] Freshwater Pearl Mussel (<i>Margaritifera margaritifera</i>)
Wexford harbour and Slobs SPA [004076]	[A004] Little Grebe (<i>Tachybaptus ruficollis</i>) [A005] Great Crested Grebe (<i>Podiceps cristatus</i>) [A017] Cormorant (<i>Phalacrocorax carbo</i>) [A028] Grey Heron (<i>Ardea cinerea</i>) [A037] Bewick's Swan (<i>Cygnus columbianus bewickii</i>) [A038] Whooper Swan (<i>Cygnus cygnus</i>) [A046] Light-bellied Brent Goose (<i>Branta bernicla hrota</i>) [A048] Shelduck (<i>Tadorna tadorna</i>) [A050] Wigeon (<i>Anas penelope</i>) [A052] Teal (<i>Anas crecca</i>) [A053] Mallard (<i>Anas platyrhynchos</i>) [A054] Pintail (<i>Anas acuta</i>) [A062] Scaup (<i>Aythya marila</i>) [A067] Goldeneye (<i>Bucephala clangula</i>) [A069] Red-breasted Merganser (<i>Mergus serrator</i>) [A082] Hen Harrier (<i>Circus cyaneus</i>) [A125] Coot (<i>Fulica atra</i>) [A130] Oystercatcher (<i>Haematopus ostralegus</i>) [A140] Golden Plover (<i>Pluvialis apricaria</i>) [A141] Grey Plover (<i>Pluvialis squatarola</i>) [A142] Lapwing (<i>Vanellus vanellus</i>) [A143] Knot (<i>Calidris canutus</i>) [A144] Sanderling (<i>Calidris alba</i>) [A149] Dunlin (<i>Calidris alpina</i>) [A156] Black-tailed Godwit (<i>Limosa limosa</i>) [A157] Bar-tailed Godwit (<i>Limosa lapponica</i>) [A160] Curlew (<i>Numenius arquata</i>) [A162] Redshank (<i>Tringa totanus</i>) [A179] Black-headed Gull (<i>Chroicocephalus ridibundus</i>) [A183] Lesser Black-backed Gull (<i>Larus fuscus</i>) [A395] Greenland White-fronted Goose (<i>Anser albifrons flavirostris</i>)

6. ASSESSMENT OF ADVERSE EFFECTS

Adverse Effects during Construction

As shown in the Tables 4.1 and 4.2 above, there is potential for adverse effects on the integrity of the Slaney River Valley SAC and the Wexford Harbour and Slobbs SPA. The works that are considered to have potential to adversely affect the SAC and SPA is the construction of the parapet including the installation of the scaffolding in the river. Instream works and the use of wet mortar/ concrete over water may lead to impacts on aquatic life including direct and indirect impacts on Qualifying Interests of the SAC and SPA. Mitigation is required to reduce the risk of sediment release and the accidental spillage of wet mortar and wet concrete into the River Slaney.

Adverse Effects during Operation

Following the reconstruction of the parapet and removal of the scaffolding, the reactive maintenance works do not provide for any risk of ongoing pollution, changes to the hydrological regime or disturbance. Therefore, there are no anticipated adverse effects of the works during operation.

7. MITIGATION

In order to avoid adverse effects on the integrity of the SAC and SPA during the works, the following mitigation measures will be implemented:

- In-stream works will only be undertaken during the period beginning 1st July and ending 30th September.
- In-stream works will comply with IFI (2016) *Guidelines on Protection of Fisheries During Construction Works in and Adjacent to Waters*.
- No machinery will be permitted to enter the River Slaney.
- The scaffold will be erected from the bridge deck or on foot or from a boat in the river.
- Masonry repair will be undertaken on foot from the bridge deck and from the scaffolding which will be erected on the riverbed.
- A catch-net will be fitted under the area being repaired to catch any spilled mortar. The scaffold platform may act as the catch-net, subject to approval by the ER.
- The use of wet concrete and wet mortar will not be permitted if rain is forecast.
- Plastic sheeting will be available to cover any areas of wet concrete or mortar should unexpected rainfall occur.
- Concrete and mortar will be mixed in a watertight container at least 20 m from the river.
- Only one bucket of wet concrete and mortar will be brought to the works site at any time, by each person carrying out repairs or repointing.
- No construction materials will be stored on the scaffolding platform.
- Security lighting will be directed away from the River Slaney. If required, louvres will be fitted to lights to prevent light spill onto the river.

8. ASSESSMENT OF IN-COMBINATION EFFECTS

Article 6(3) of the Habitats Directive requires that AA be carried out in respect of plans and projects that are likely to have significant effects on European sites, “*either individually or in combination with other plans or projects*”. Therefore, regardless of whether or not the likely effects of a plan or project are significant when considered on their own, the significance of the combined effects of the plan or project under assessment and other past, present or foreseeable future plans or projects must also be evaluated.

EIRSPAN Bridge Management system

The following routine maintenance works are proposed at the Enniscorthy Bridge as part of the EIRSPAN Bridge Management System:

- Sweep and clean bridge surface (150 m²).
- Clean all gullies (4 No.).
- Clean footways (160 m²).
- Removal of vegetation throughout structure (60 m²).
- Sealing of carriageway crack (20 m).
- Removal of debris from piers at inlet (2 m²).
- Move I.D. plate (1 No.).

All material arising from sweeping and cleaning, cleaning of gullies, cleaning of footways and removal of debris will be removed from site and disposed of at the suitable location.

In this case of vegetation removal at the Enniscorthy Bridge, the plant protection products will be used in accordance with the product label and will be products approved for use near water. Removal of the vegetation by powerhosing, airhosing or scraping is not suitable on a masonry bridge, because these methods would damage the mortar repointing would be required.

Conclusion of Assessment of In-combination Effects

Due to the small scale and temporary nature of the proposed routine maintenance works and the reactive maintenance works, there is no potential for in-combination effects with other plans and projects.

9. RESIDUAL IMPACTS AND CONCLUSION/ RECOMMENDATION

Following the inclusion of the mitigation measures in Section 7 above, the probability of impacts on water quality arising from the reactive maintenance works are very low and the significance of any such impacts, if they were to occur, would be slight to imperceptible. Thus, it can be concluded beyond all reasonable scientific doubt that construction and operation of the proposed reactive maintenance works will not adversely affect the integrity of either the Slaney River Valley SAC or the Wexford Harbour and Slobs SPA, in view of the Conservation Objectives for the Qualifying Interests listed in Table 5.1 of this report.

It is the considered opinion of ROD, as the author of this NIS, that, in making its AA in respect of the proposed reactive maintenance works at Enniscorthy Bridge [WX-N11-005.00], Transport Infrastructure Ireland, as the Competent Authority in this case, should determine that, given the full and proper implementation of the mitigation prescribed in this NIS, the proposed works, either individually or in combination with other plans or projects, will not adversely affect the integrity of the Slaney River Valley SAC, the Wexford Harbour and Slobs SPA or any other European site.

10. REFERENCES

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Planning and Development (Amendment) Act, 2010. *No. 30 of 2010*.

Appendix A
Freshwater Pearl Mussel Report

Leinster Bridges Term Maintenance Contract No. 3

Specialist Surveys - Fresh Water Pearl Mussel



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1 INTRODUCTION

This report sets out findings of Freshwater Pearl Mussel (FPM) surveys conducted in May 2018 at national road bridge sites on rivers in Counties Laois and Wexford. Surveys were conducted by Aquatic Services Unit (ASU), University College Cork (UCC) on behalf of Roughan & O'Donovan, Consulting Engineers. The work was under Transport Infrastructure Ireland (TII) Leinster Term Maintenance Contract No. 3.

The FPM is an endangered freshwater bivalve listed under Annex II and V of the EU Habitats Directive (92/43/EEC) and protected under the Convention on the Conservation of European Wildlife and Natural Habitats (Berne). The 2007 Habitats Directive Article 17 reports classified the pearl mussel as in unfavourable-bad conservation status in all EU regions (<http://biodiversity.eionet.europa.eu/article17/>). There are two species in Ireland, *M. margaritifera* and *M. durrovensis*, both of which are critically endangered on the Irish Regional non-marine mollusc red list (Byrne *et al.*, 2009) and at unfavourable-bad status in Ireland (NPWS, 2013).

It is legally protected in Ireland under Schedule 1 of the Wildlife Act (1976) (S. I. 112 of 1990); the European Communities (Natural Habitats) Regulations (S. I. 477 of 2011), and the Water Framework Directive through the EC Environmental Objectives (Freshwater Pearl Mussel) Regulations (S.I. 296 of 2009).

2 METHODOLOGY

2.1 Desk study

Bridge locations and access routes were scoped using a range of physical and online resources including: OSI Maps, Google Earth and EPA Envision Mapviewer.

2.2 Survey Locations

Table 1 – Survey Locations with coordinates (ITM)

Structure ID	Structure Name	River	X	Y
LS-N77-002.00	New Bridge	River Nore	██████	██████
WX-N11-005.00	Enniscorthy Bridge	Slaney River	697366	639965
WX-N30-002.00	Tomduff Bridge 1	Trib. of Slaney	696868	638961
WX-N80-001.00	Tomnakipeen Bridge	Trib. of Slaney	697596	645625
WX-N80-002.00	Tomagarrow Bridge	Trib. of Slaney	696610	647735

2.3 FPM Survey Methodology

Stage 1 (presence/absence) FPM surveys were carried out in accordance with methods set out in Anon. (2004) undertaken by experienced FPM surveyors under licence from NPWS (C47/2018; C58/2018). A measured reach, 50m upstream and downstream of each structure, was searched. Surveys took place between 12th and 28th of May 2018. Watercourses were wadeable at all except New Bridge and Enniscorthy Bridge, where snorkelling was necessary. There were low-to-average water levels during surveys; good instream visibility and no evidence of recent spate. A photograph was taken to show the general nature of each watercourse and brief habitat notes were recorded.

3 RESULTS

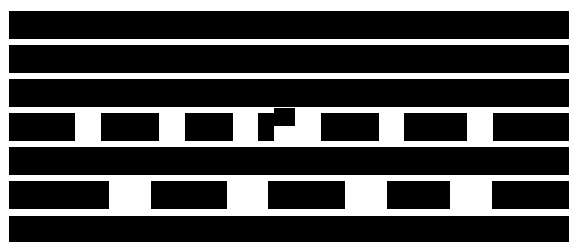
3.1.1 LS-N77-002.00 New Bridge



X, Y (ITM): 641457 678642

Main channel Nore River, Co Laois. Surveyed (snorkel / wade) 50m US and DS of bridge.

Average width / depth: 10m/0.30m. Cobble and pebble dominated with some coarse sand. Abundant *Cladophora*, *Vaucheria* and silty diatom detritus (signs of impaired water quality). Moderate salmonid habitat.



3.1.2 WX-N11-005.00 Enniscorthy Bridge



X, Y (ITM): 697366 639965

Main channel Slaney River, Co Wexford. Surveyed (snorkel / wade) 50m US and DS of bridge.

Average width / depth: 19m / 0.6m. Cobble, pebble, sand with abundant *Cladophora*, *Vaucheria* and silty diatom detritus (signs of impaired water quality). Moderate salmonid habitat.

No FPM; some patches of suitable habitat.

3.1.3 WX-N30-002.00 Tomduff Bridge 1

X, Y (ITM): 696868 638961

Small tributary of Slaney River, Co. Wexford. Surveyed (wade) 50m US and DS of structure.

Average width / depth: 8m / 0.5+m.

No FPM; pockets of suitable habitat both upstream and downstream of the bridge. Water quality impaired but possibly OK for residual old specimens if present.

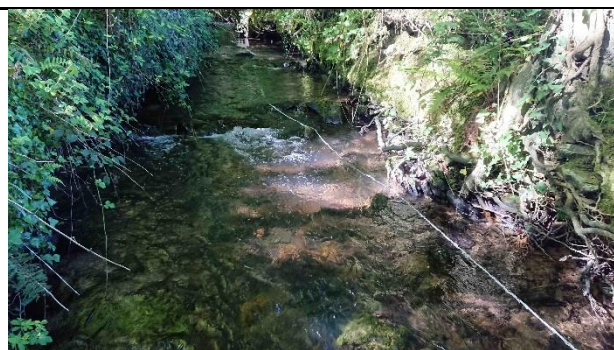
3.1.4 WX-N80-001.00 Tomnakipeen Bridge

X, Y (ITM): 697596 645625

Small tributary of Slaney River, Co. Wexford. Surveyed (wade) 50m US and DS of structure.

Average width / depth: 1.75m / 0.2m.

No FPM; poor habitat and very poor water quality.

3.1.5 WX-N80-002.00 Tomagarrow Bridge

X, Y (ITM): 696610 647735

Tributary of Slaney River, Co. Wexford. Surveyed (wade) 50m US and DS of structure.

Average width / depth: 1.5m / 0.25m.

No FPM; pockets of potential habitat upstream and downstream, especially beneath shaded root overhangs from the bank. Possibly too shallow however some summers.

4 CONCLUSION

Such luxuriant FGA, mainly *Cladophora*, and accumulated silt is a sign of at least slightly impaired water quality in the river and may be the reason so many dead shells were observed.

There was no evidence of FPM in the 50m reach upstream and downstream of the other four structures, as summarised in Table 2.

Table 2 – Leinster Bridges FPM Summary of Results

Structure ID	Structure Name	X	Y	FPM 50m US/DS
WX-N11-005.00	Enniscorthy Bridge	697366	639965	No
WX-N30-002.00	Tomduff Bridge 1	696868	638961	No
WX-N80-001.00	Tomnakipeen Bridge	697596	645625	No
WX-N80-002.00	Tomagarrow Bridge	696610	647735	No

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