

**APPLICATION FOR DEROGATION LICENCE TO CONDUCT REPAIR WORKS
TO LISMAINE BRIDGE, LISMAINE, CO. KILKENNY.**

SUPPORTING INFORMATION

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1. INTRODUCTION

The objective of the proposed repair works at Lismaine Bridge is to maintain the structure in sound structural condition and fit for purpose ie to allow traffic to travel safely over the structure. The proposed work is being conducted as part of Kilkenny County Council's annual bridge maintenance program.

Lismaine Bridge was first surveyed for bats in 2022 and a maternity roost of c. 20 Daubenton's bats was recorded using several crevices under the arches. These crevices were clearly marked for retention with red paint. Lismaine Bridge was surveyed again in 2023 and 2024. The maternity roost was still present. A derogation licence was granted in 2022 for the works to proceed but no works were conducted between 2022 and 2024. A final bat survey was conducted in April 2025. Approximately 25 Daubenton's bats *Myotis daubentonii* were recorded in a crevice behind the upstream facing stones of the second arch from the western side. This number of bats would indicate that this is a maternity roost of bats.

Dr Caroline Shiel has over 30 years' experience of bat surveys for academic and commercial purposes. She has a PhD in "*Diet, foraging and activity at the roosts of Leisler's bat*", awarded by NUI Galway. She is a founding member of Bat Conservation Ireland and is currently a director and vice-chair of the organisation. She is also a member of the Heritage Council's panel of bat experts.

She regularly carries out bat surveys throughout Ireland, particularly of masonry bridges and heritage buildings. She holds a three-year bat specialist's licence (Sections 22 & 23) from National Parks and Wildlife Service.

This application is prepared by Caroline Shiel Caroline Shiel will be the supervising ecologist on site for the duration of the works.

2. BACKGROUND

Lismaine bridge (Grid reference: 52.743541, -7.3474420) is a 5 span masonry arch structure carrying the L1818 local road over the River Nore in Co. Kilkenny. Lismaine Bridge is located 3 km northeast of Freshford in north Co. Kilkenny. The River Nore flows in a southerly direction under the bridge.

The bridge is owned by Kilkenny County Council and is a protected structure on Kilkenny County Council's Record of Protected Structures.

Lismaine Bridge is listed on the National Inventory of Architectural Heritage NIAH Reg No. 12400914. Date 1765 -1785 -

"Five-arch rubble limestone road bridge over river, c.1775. Random rubble limestone walls with cut-limestone triangular cutwaters to piers having cut-limestone coping, cast-iron tie plates, pedestrian refuge on a shallow triangular plan, and squared rubble limestone coping to parapets. Series of five segmental arches with cut-limestone voussoirs, and rubble stone soffits having remains of render over. Sited spanning River Nore with grass banks to river".

"An elegantly-appointed substantial bridge representing an important element of the mid to late eighteenth-century civil engineering heritage of County Kilkenny. Forming the crossing over a wide section of the River Nore the bridge represents an appealing landmark in the

locality with the construction in locally-sourced stone serving to integrate the composition pleasantly into the surrounding rural landscape”.

3. DETAILS OF PROPOSED ACTIVITY

Lismaine Bridge requires some maintenance works including repointing of arch barrels and bridge walls. Daubenton's bats have been recorded roosting in numerous crevices under the five arches. These crevices have all been marked for retention, particularly the crevices used by the maternity colony of Daubenton's bats.

Immediately prior to re-pointing works commencing in mid-September, the bridge will be resurveyed to record the roosting positions of any remaining bats. Re-pointing works will be supervised on site by Caroline Shiel to ensure that no grout enters the marked crevices.

Works proposed for Lismaine bridge

- Remove vegetation from structure
- Repair damage to parapets
- **Repoint arch and abutments**
- Install concrete scour protection for abutments
- Install concrete rubbing strips

4. ECOLOGICAL SURVEYS

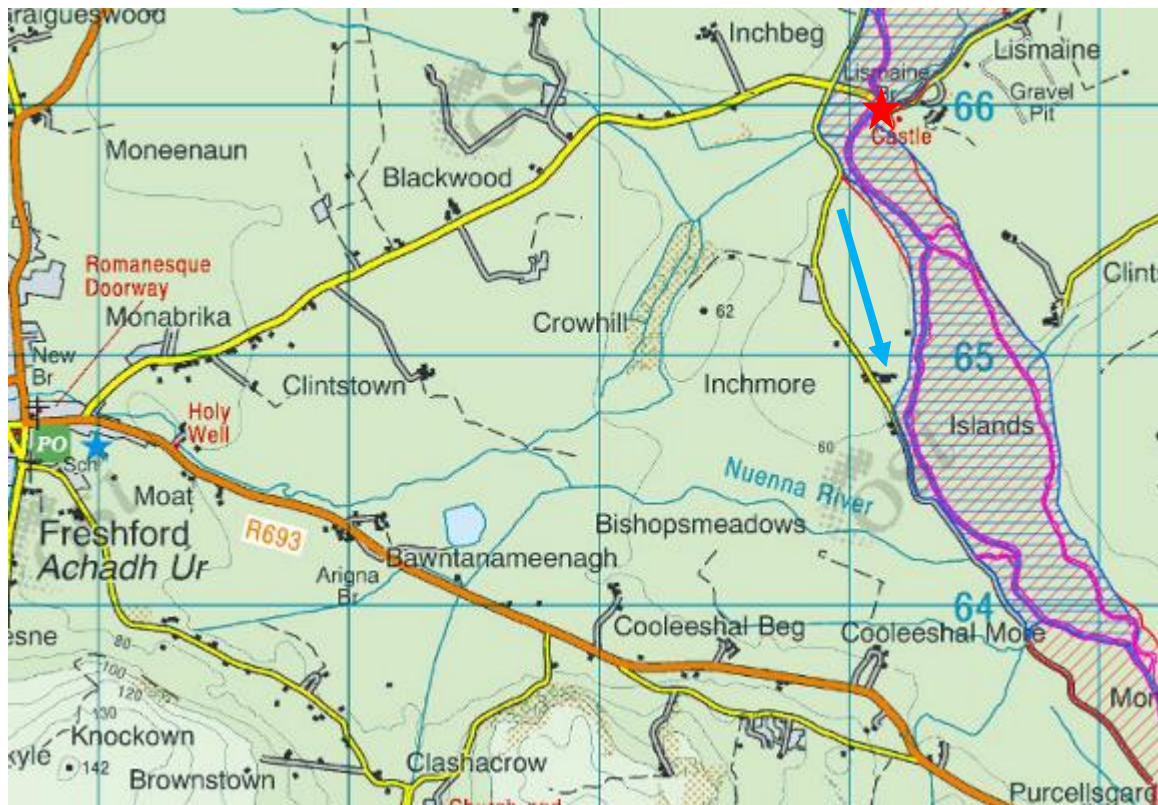


Figure 1 – location of Lismaine Bridge spanning River Nore (red star)

Lismaine Bridge was first surveyed for bats on 08.05.22. Further surveys were conducted in 2023 and 2024. On each occasion, a nursery roost of Daubenton's bats was recorded roosting in the bridge. The most recent survey was conducted on 21/5/25 where a nursery colony of approx. 25 Daubenton's bats were recorded roosting in a crevice behind the upstream facing stones of the second arch from the western side. In addition, 4 Daubenton's bats were recorded in a fissure approx. 2m in from the downstream face of Arch 2.

Bat surveys were conducted by wading into the river beneath each of the arches and examining the undersurface of the arches using a powerful torch. Bats were readily seen in the crevices using this methodology. It was not possible to examine the walls of the bridge due to the height of the structure. A bat detector survey was conducted on the 21/05/25 by two surveyors, one upstream and one downstream of the bridge. No bats were recorded emerging from the bridge walls but at least 20 bats were recorded emerging from under Arch 2. Equipment used included high powered torches (Ledlenser), Swarovski binoculars, Pettersson D240x Time expansion bat detector, Pettersson D200 and Echometer Touch Pro connected to mini i-pad.

Immediately prior to re-pointing works commencing in mid-September, the bridge will be resurveyed to record the roosting positions of any remaining bats. By mid -September, the maternity colony will have broken up but a few bats may remain roosting in the structure. Thermal scopes will be trained on both upstream and downstream elevations of Lismaine Bridge to enhance the accuracy of the pre-construction survey (Guide 19 and Guide 612).

Daubenton's bats are widespread in the area and roosts have been recorded in several bridges on the River Nore and its tributaries.

Daubenton's bat is widespread throughout Ireland. Its conservation status in Ireland is of "Least Concern" (Marnell, 2019). There is no evidence of a decline in Ireland over the last 20 years (Bat Conservation Ireland data).

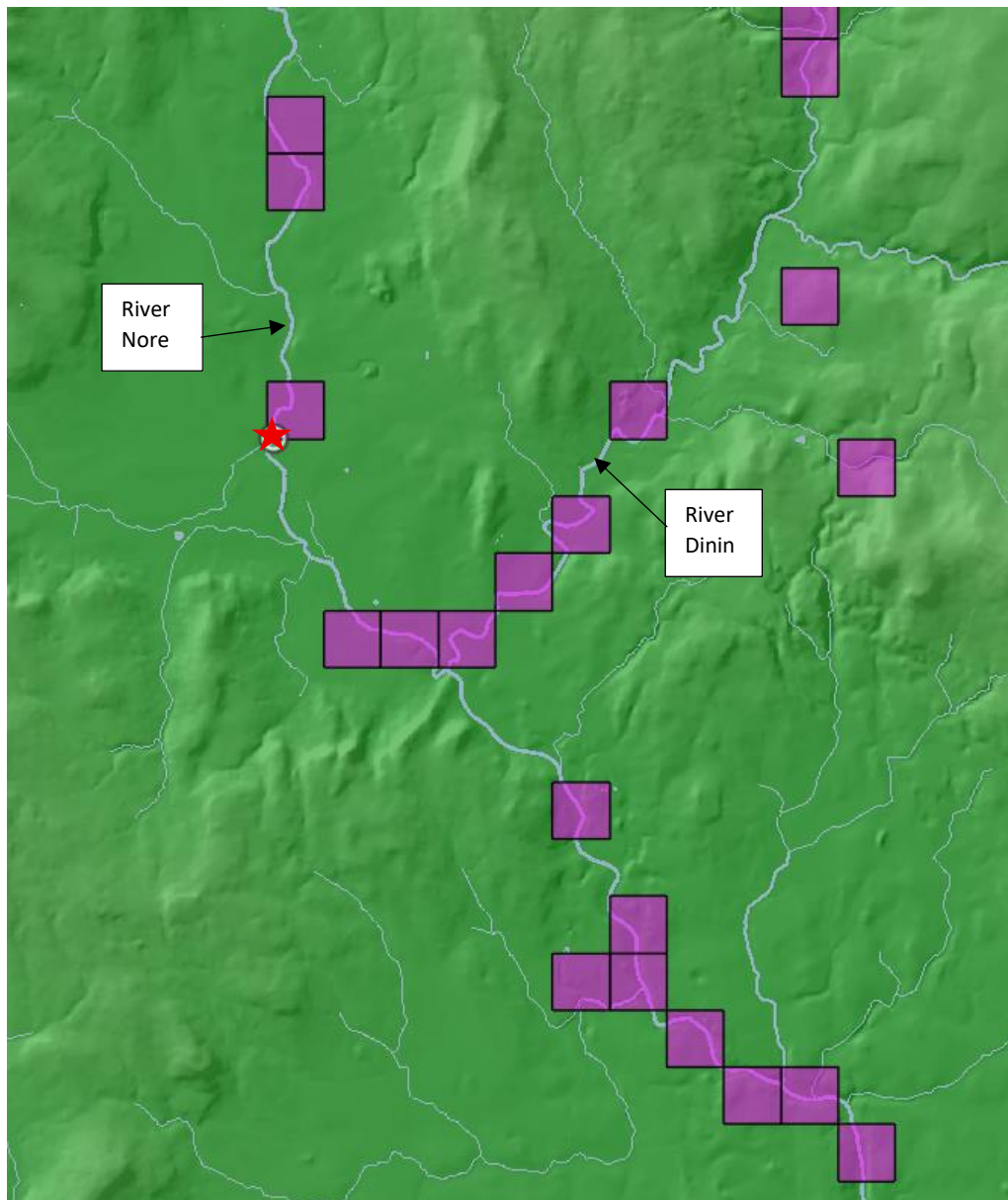


Figure 2 – showing numerous records of Daubenton's bat from along the River Nore and River Dinin (NBDC maps). Lismaine Bridge is indicated with a red star.



Photo 1 – looking east over Lismaine Bridge



Photo 2 – River Nore upstream of Lismaine Bridge. Ideal foraging habitat for bats



Photo 3 – eastern arches of bridge



Photo 4 – upstream face of bridge

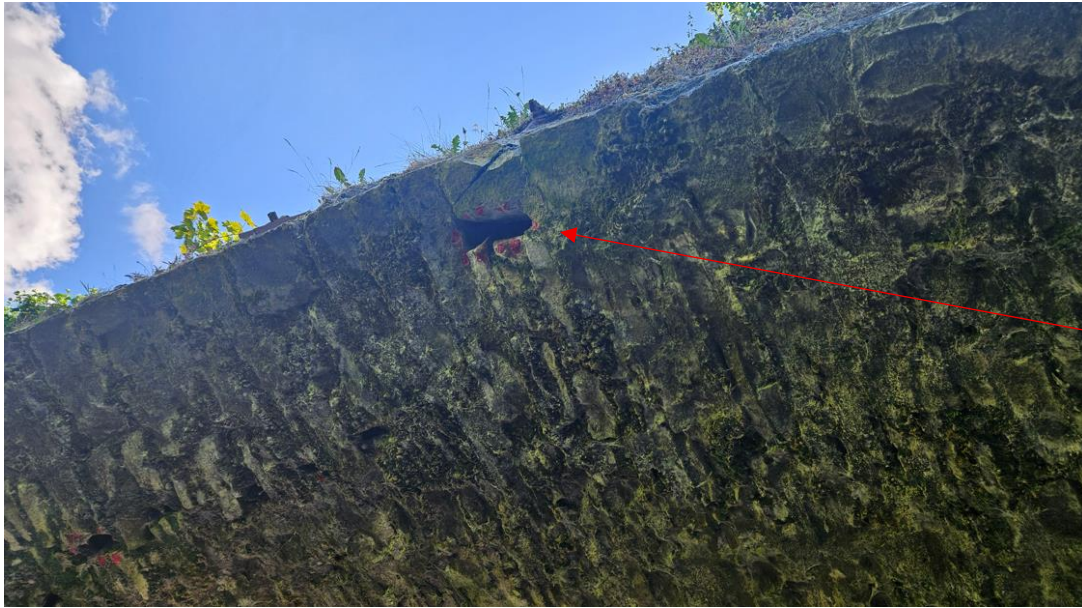


Photo 5 – position of maternity roost of Daubenton's bats on 21/5/25 in crevice behind facing stones of second arch from western side

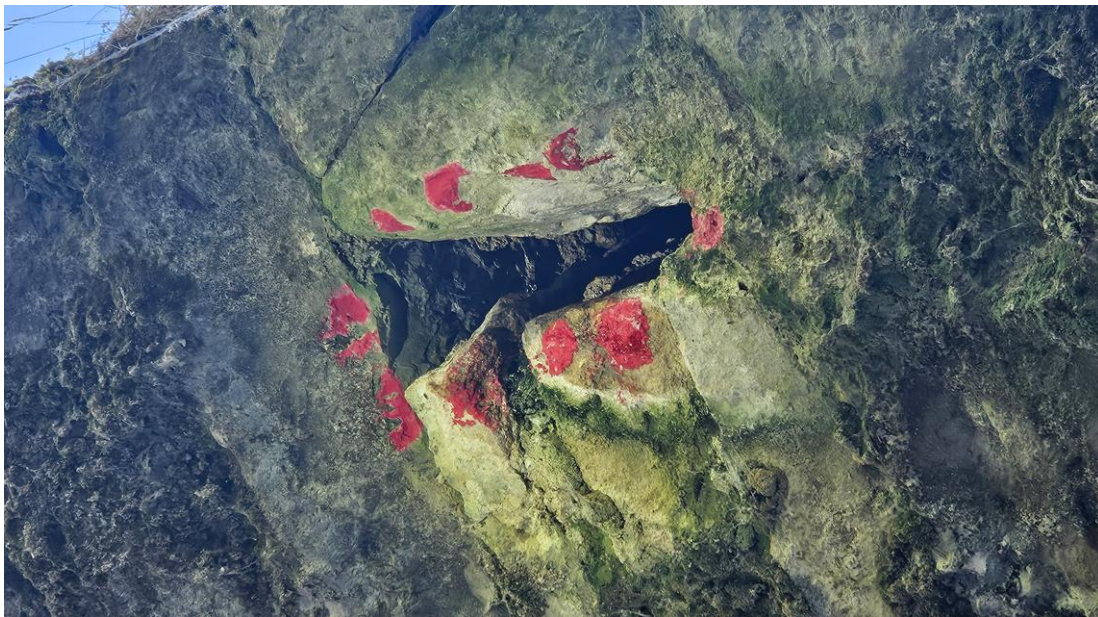


Photo 6 – close up of crevice used by maternity roost



Photo 7 – section of fissure under arch 2 containing 4 Daubenton's bats (approximately 2m from downstream face of arch)

5. DEROGATION TESTS

Test 1 – Reason for the Derogation

This derogation licence application is being made under Regulation 54(2)(a-e) of the European communities (Birds and Natural Habitats) Regulations –

c. In the interests of public health and public safety, or for other reasons of overriding public interest, including those of a social or economic nature and beneficial consequences of primary importance for the environment

Lismaine Bridge requires routine maintenance works to ensure its ongoing safety for road users. There is damage to parapet walls due to collisions by vehicles. This damage will be repaired. Arches and abutments require repointing to strengthen the stonework and prevent water leaking through the stonework. This repointing work can be conducted while also retaining crevices for bats to continue roosting in the structure. All crevices used by bats have been clearly marked for retention with red paint.

Test 2 – Absence of Alternative Solutions

The “Do Nothing” option is unsatisfactory because the structural integrity of the stonework of the bridge will deteriorate further until the structure becomes unsafe and the road will have to be closed. Lismaine Bridge dates from 1775 (250 years old) and is a Protected Structure. Routine maintenance works will be required in the future.

Alternative Solution – place Schwegler bat boxes on bridge.

It is always preferable to attempt to retain some of the original crevices being used by bats than simply fitting a bat box to the bridge structure after the works have been completed and all crevices sealed.

To date, no bat box has been confirmed to recreate the same thermal capacity, conductivity and microclimate conditions that would be found inside a bridge crevice. Bat boxes are useful in their own right but should not be seen as replacements for a lost bridge roost (Bat Workers Manual 2004). Bat boxes are also highly susceptible to human disturbance which if vandalised can have catastrophic consequences for the roosting bats.

A range of different Schwegler bat box models have been trialled at various around the country. It has been found that Daubenton's bats do not readily take to bat boxes. Most boxes placed on bridge walls were taken up by pipistrelle bats, not the target species - Daubenton's bats. Trials are ongoing on various models of bat box that are designed to be placed under bridge arches.

There is no suitable alternative. The repair works are necessary to maintain the safety of the bridge.

Test 3 Impact of Derogation on Conservation Status

The proposed works will have no impact on the Conservation status of Daubenton's bat. Once the repointing works are completed the bats will be able to continue roosting in the retained crevices in Lismaine Bridge.

I have supervised similar works at Lacklea Bridge in Co. Donegal and Duncannon Bridge in Co. Cork where maternity colonies of Daubenton's bats returned to the bridges the year following the works. Works were conducted under derogation licences.

The proposed repair works to Lismaine Bridge will not be detrimental to the maintenance of populations of this species at a favourable conservation status in their natural range as required under Section 54 (2) of the European Communities (Birds and Natural Habitats) Regulations.

6. MONITORING THE IMPACTS OF THE DEROGATION

All repointing works will be carried out under direct on-site supervision by ecologist Caroline Shiel. Lismaine Bridge will be resurveyed for bats in April/ May 2026 to ensure that the maternity colony has returned to roost in the structure. A completion report will be sent to NPWS, along with the derogation licence return.