MUL260006 - Submission to MARA Public Consultation

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Date	**October 20th 2026**

Introduction

The submitters request that MARA refuse MUL260006 on the basis of the environmental evidence and assessment presented in this submission, which demonstrate that the information presently available is insufficient to exclude reasonable scientific doubt as to the potential adverse effects of the proposed survey activities. In its determination, MARA must comply with the full statutory framework applicable to the licence application, including the Maritime Area Planning Act 2021 and the European Communities (Birds and Natural Habitats) Regulations 2011.[1,2] Insofar as Appropriate Assessment is concerned, authorisation is available only where the assessment record contains sufficiently complete, precise, definitive and reasoned findings capable of dispelling reasonable scientific doubt as to adverse effects on the integrity of the relevant European sites.[3,20,22] The deficiencies identified below, taken together, prevent that positive conclusion on the present record and also engage wider ecological and substantive licensing requirements.

The evidence is presented in four connected issues: the documented receptor baseline; the acoustic footprint of the permitted survey programme; physical disturbance of the Cregg honeycomb-worm habitat; and unresolved environmental matters raised in consultation. The submitters' primary requested outcome is refusal of MUL260006, not post-consent mitigation or later micro-siting. Only if MARA first concludes, on evidence available before determination, that a precisely defined remaining programme has been completely and lawfully assessed should any partial grant be considered. The surveys cannot themselves supply information needed to decide whether carrying out those surveys may lawfully be authorised.[1,2,3,20,22]

Schedule 1 | Principal material issues requiring reasoned determination

This schedule is a concise index to the evidence and questions developed in Issues 1-4 and the Conclusion. It identifies matters the submitters consider material to whether MUL260006 can lawfully be granted. It is not a request for a separate personal reply to every question: it asks MARA to show, in its assessment and published decision record, how these material issues were evaluated. The substantive findings sought are developed further under "Conclusion and Required Findings".[1,2,3]

#	Issue	Material question and source cross-reference
1	**SPA birds and intertidal interaction**	Reconcile the "offshore / no intertidal interaction" screening premises with Cregg works and local SCI records; determine site-integrity implications. Issue 1; refs 4, 35–37, 42–43, 49
2	**Local seals, cetaceans and otters**	Reconcile the 2025–26 seal surveys, IWDG evidence of local dolphin/whale occurrence and documented Inagh otter activity with the NIS baseline, actual operations and applicable protections. Issue 1; refs 4, 9, 40–41, 58, 63

#	Issue	Material question and source cross-reference
3	**Fish, Area B and watercourse**	Address IFI's diadromous-fish pathway; identify the Area B reach, sampling and access footprint and reconcile the revised Area B boundary and screening of downstream SAC saltmarsh features. Issue 1; refs 10, 39, 63–64
4	**Flapper Skate, Basking Shark and other receptors**	Determine how the documented local skate record, seasonal Basking Shark occurrence and other receptor evidence affect baseline, methods, vessel-collision appraisal and licensing assessment. Issue 1; refs 4, 9, 27, 31–33, 58
5	**Acoustic exposure**	Assess a defined worst-case survey source envelope, receptor-specific disturbance/exposure and the adequacy of monitoring, mitigation and cumulative scope. Issue 2; refs 4–5, 29, 38–39, 53–54
6	**Sabellaria and physical disturbance**	Reconcile photographic habitat evidence and independently checked camera coordinates with final works and access footprints; resolve possible physical intersection. Issue 3; refs 30, 32, 35–36, 51, 61–62, 65
7	**Programme limits and conditions**	Reconcile investigation maxima and mini-rig scope; define the full vehicle-access and survey footprints; assess any proposed exclusions or conditions before grant. Issues 2–3; refs 1–4, 39, 51, 62, 65
8	**Public Consultation Stakeholder engagement and evidence**	Reconcile Uisce Eireann's MAC-recorded public consultation engagement claims with the dated public stakeholder evidence and establish the treatment of environmental requests material to this licence. Issue 4; refs 18–19, 55
9	**Survey rationale and alternatives**	Ensure the marine surveys are assessed on their own merits, without treating the downstream WWTP/outfall configuration as predetermined. Issue 4; refs 39, 59–60
10	**Appropriate Assessment conclusions and refusal**	State whether the necessary consent-stage findings are available; if not, refuse, or consider only a clearly defined and independently lawful residual programme. Conclusion; refs 1–3, 20, 22

The schedule is a cross-reference, not a substitute for the detailed evidence and findings sought in the body of this submission. The submitters' primary requested relief remains refusal of MUL260006 on the present record.[1,2,3]

Issue 1: Receptor Baseline

The receptor baseline must address the documented bird, seal, cetacean, otter, Flapper Skate and Basking Shark evidence for Cregg Beach, the Lahinch coast, the Inagh system and Liscannor Bay, together with the migratory-fish pathway identified by IFI and the locally documented Atlantic salmon pathway in the Inagh. MUL260006 also includes a separate freshwater Area B upstream of Ennistymon, so the receptor baseline and source-pathway-receptor analysis cannot be confined to marine and intertidal Area A. This issue presents the location maps and local evidence, identifies European-site connections that require assessment and addresses omissions and contradictions in the applicant's assessment. The implications of underwater-noise

exposure are developed in Issue 2. Issue 3 then adds GPS-referenced Cregg field evidence, which materially sharpens the physical-disturbance and intertidal-habitat pathways relevant to the refusal question.[63,64]

Figure 1 shows Cregg Beach, Cliffs of Moher Special Protection Area (004005), Mid-Clare Coast SPA (004182) and the National Biodiversity Data Centre (NBDC) R08Y recording square. Figure 2 overlays Uisce Éireann's proposed Area A on R08Y and its four 1 km squares. Approximately 102.3 ha of Area A falls within R08Y, as part of the R0886 and R0986 squares, and the mapped Cregg outfall landfall lies in R0986. The maps establish the geographical overlap between the proposed survey area and the recording square containing the local SPA bird-interest evidence.[21,35,48,50,51,52]

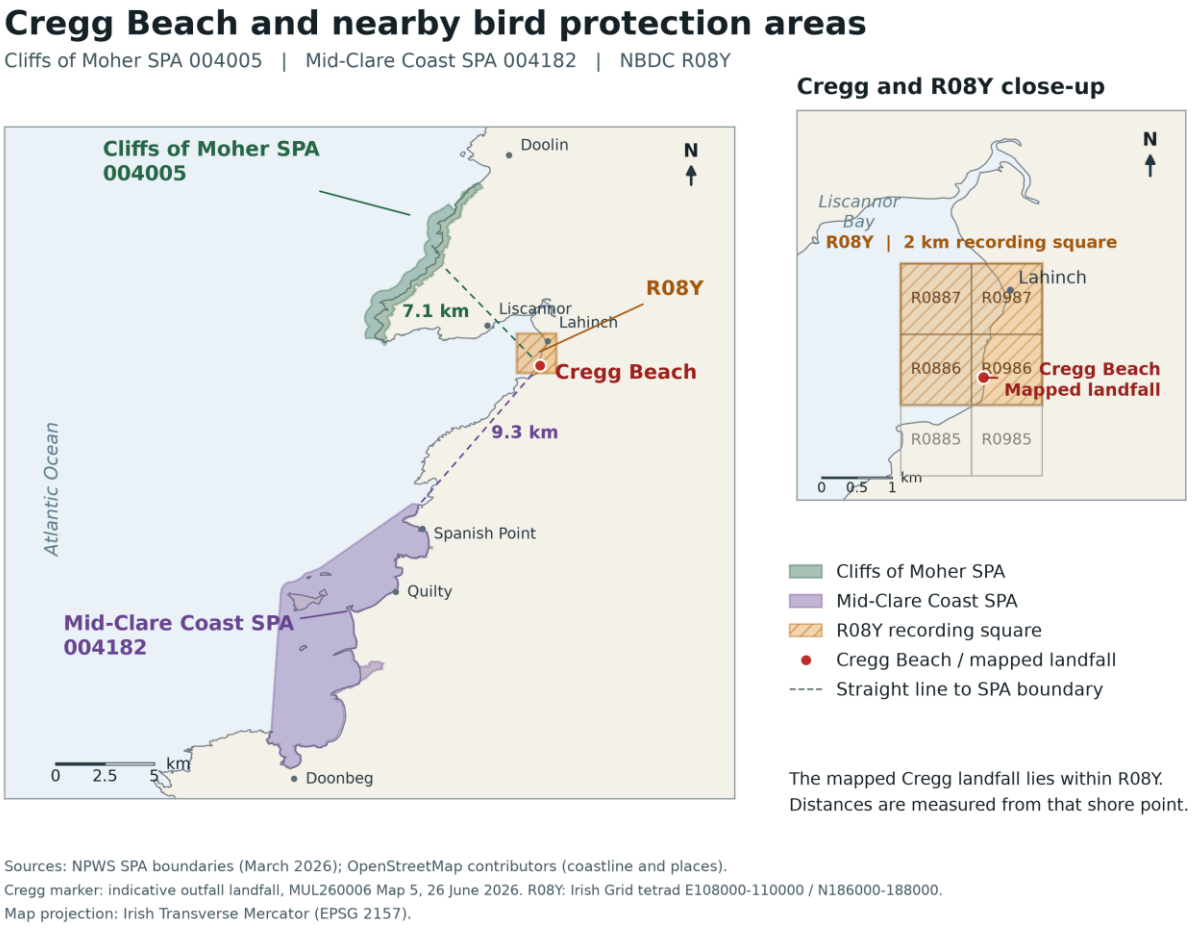


Figure 1. Cregg Beach, nearby SPAs and R08Y. The Cregg marker is the shoreline endpoint of the indicative outfall route in MUL260006 Map 5. Straight-line distances to the nearest mapped SPA boundaries are approximately 7.1 km for Cliffs of Moher and 9.3 km for Mid-Clare Coast.[48,50,51,52]

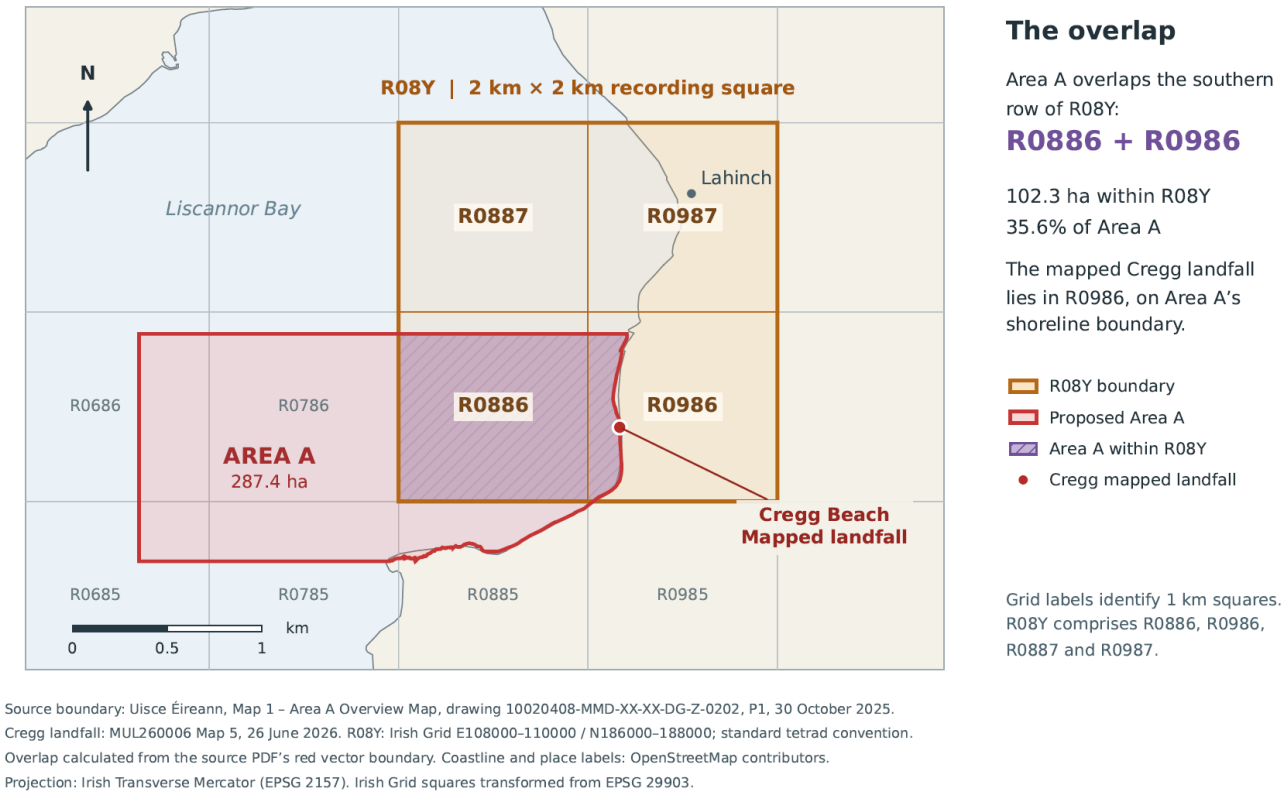


Figure 2. Uisce Éireann's proposed Area A and the R08Y recording square. Area A overlaps R08Y in R0886 and R0986, covering approximately 102.3 ha (35.6% of Area A). The Cregg marker is the mapped outfall landfall in R0986, on Area A's shoreline boundary. Purple hatching identifies the overlap between the proposed licence area and the recording square.[21,48,51,52]

Area B freshwater investigations

Area B materially broadens the spatial and ecological scope of MUL260006 beyond Area A in Liscannor Bay. Applicant Map 4 P2 identifies a 6,045.98 m^2 proposed licence area upstream of Ennistymon with three mapped access points (A-C). The map labels the channel "Cullenagh River". The revised NIS, by contrast, describes Area B as being upstream of the Falls Hotel and states that kick sampling and water-quality sampling will be carried out "within the Inagh River" to characterise freshwater ecological conditions and establish a baseline for assessing potential improvements once existing untreated discharges are decommissioned.[4,64]

The earlier Map 4 P1 (30 October 2025) gives Area B as 6,430.28 m^2, whereas Map 4 P2 (26 June 2026) gives 6,045.98 m^2, a reduction of 384.30 m^2. This boundary revision is explained in Uisce Éireann's 26 June 2026 response to MARA: the Area B boundary was aligned with the High-Water Mark and terrestrial islands were excluded. The reduction itself is therefore not unexplained. The subsequently updated August 2026 SISAA/NIS nevertheless retains 6,430.28 m^2 in its introductory description and calls the watercourse the Cullenagh River, while its freshwater-investigations section refers to the Inagh River. What remains unresolved is whether the assessment consistently covers the current P2 boundary, precise river reach and proposed sampling and access operations.[4,39,64]

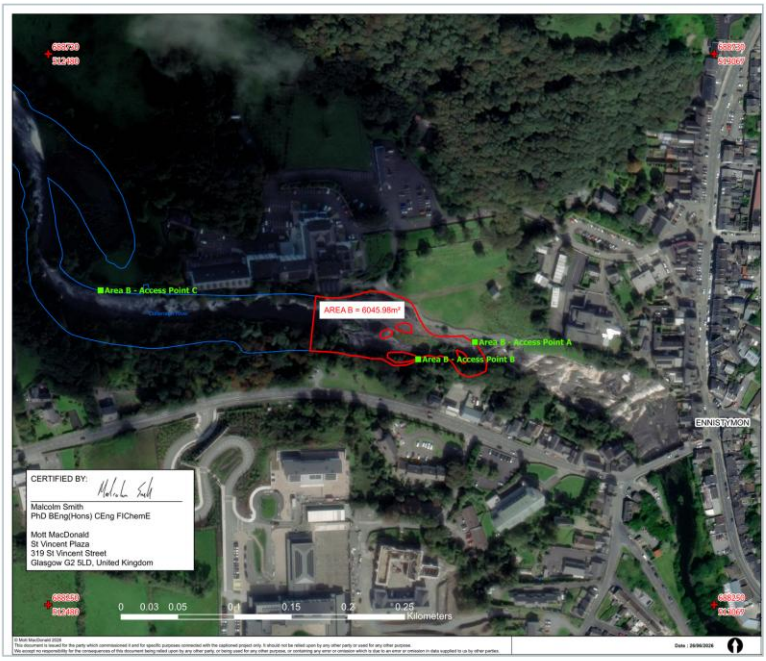
The described Area B methods are not comparable in intensity to the Cregg borehole, CPT, trial-pit and tracked-rig programme. The NIS specifies kick sampling and water-quality sampling at Area B, not drilling or geotechnical plant. The concern is therefore not a demonstrated risk of mammal injury. It is that the licence includes personnel access and deliberate, localised disturbance of freshwater bed substrate within a river corridor for which recent local evidence records Atlantic salmon spawning, upstream salmon migration via the Ennistymon fish pass and otter activity through Ennistymon. Kick sampling therefore requires proportionate assessment of timing, access, bed/substrate disturbance and interaction with migratory fish; water-quality sampling is materially less intrusive. For otters, the relevant pathway is disturbance and any interaction with movement, resting or breeding habitat, not an assumed physical-injury pathway.[2,3,4,63,64]

A separate screening question concerns the Inagh River Estuary SAC (000036). Table 2-6 of the August 2026 NIS screens out Salicornia and other annuals colonising mud and sand [1310], Atlantic salt meadows [1330] and Mediterranean salt meadows [1410], relying on no direct overlap or hydrodynamic connectivity with the proposed surveys. Given the upstream Area B sampling and access within the connected river system, MARA should identify the precise reaches and mapped saltmarsh features, and explain why the methods, bed disturbance, access and potential sediment or accidental-spill pathways cannot affect those conservation features. A downstream river connection alone does not prove a likely significant effect; it does require a reasoned distinction between physical connectivity and an ecologically credible effects pathway.[4,63,64]

Before determination, MARA should confirm that the August 2026 assessment covers the High-Water-Mark-aligned Map 4 P2 boundary (6,045.98 m^2) explained in the June response, rather than relying on the earlier 6,430.28 m^2 figure. It should identify the precise "Cullenagh River"/"Inagh River" reach, access points, sampling frequency, access routes and in-channel footprint; address the local freshwater fish and otter pathways; and provide a reach-, method- and habitat-specific justification for the exclusion of Inagh River Estuary SAC saltmarsh features in Table 2-6.[4,39,63,64]

Area B | Freshwater investigation area at Ennistymon

MUL260006 • Uisce Éireann Map 4 P2 • 26 June 2026



Applicant map facts

Licence area
6,045.98 m²

Access
Points A, B and C

Map watercourse label
“Cullenagh River”

Revised NIS description
Area B is upstream of the Falls Hotel. Kick sampling and water-quality sampling are described as taking place “within the Inagh River”.

Assessment issue
Confirm the exact river reach and access footprint.

Based on applicant Map 4 P2 and the revised NIS. Source map reproduced without changing investigation boundaries.

Figure 2A. Applicant Map 4 P2 identifies Area B (6,045.98 m^2) and Access Points A-C upstream of Ennistymon. The source map labels the channel “Cullenagh River”; the revised NIS gives a different area figure (6,430.28 m^2) and describes kick sampling and water-quality sampling “within the Inagh River”. This figure is a cropped presentation of the applicant map; the original PDF is supplied in the evidence package.[4,64]

Birds and nearby Special Protection Areas (SPAs)

A major receptor-screening issue concerns intertidal SPA Special Conservation Interest species and is directly relevant to Appropriate Assessment. Although the project description expressly includes intertidal Cone Penetration Tests (CPTs), trial pits and tracked-rig works at Cregg, the Stage 1 assessment of several Mid-Clare Coast SPA Special Conservation Interest species proceeds on the basis that the surveys are offshore and do not interact with intertidal habitat. Sanderling is screened out on the stated basis that there are "no activities within the intertidal zone"; Purple Sandpiper, which the NIS itself associates with rocky shoreline and intertidal reef habitat, is screened out on the basis of "no interaction with intertidal foraging or roosting areas"; and Turnstone is screened out on the basis of "no interaction with intertidal habitat". The same factual premise is used for Ringed Plover and Dunlin: Ringed Plover is screened out on the basis that the activities will not interact with intertidal nesting or roosting areas and that vessel movements will be offshore, while Dunlin is screened out despite acknowledged intertidal foraging and roosting because the activities are stated to take place offshore and not disturb key feeding or roosting areas.[4]

The importance of these receptors is established by the designated SPA populations and their conservation objectives. Cliffs of Moher SPA (004005), the nearest SPA identified in the applicant's assessment, protects Fulmar, Kittiwake, Guillemot, Razorbill, Puffin and Chough. NPWS's site synopsis describes an assemblage exceeding 20,000 breeding seabirds and nationally important populations. Mid-Clare Coast SPA (004182) protects Cormorant, Barnacle Goose and five intertidal waders: Ringed Plover, Sanderling, Purple Sandpiper, Dunlin and Turnstone, together with Wetland and Waterbirds. Its synopsis identifies an internationally important Purple Sandpiper population and nationally important wintering wader populations.[42,43,44,45]

The conservation concern also extends beyond Ireland. BirdLife International's 2024 European seabird report identifies Atlantic Puffin as Endangered, and Fulmar and Black-legged Kittiwake as Vulnerable, in the pan-European assessments it summarises. Its global summary reports that 30% of seabird species were threatened in the 2023 assessment. This wider conservation concern reinforces the importance of assessing effects on these SPA interests against their applicable conservation objectives.[47]

Local records of SPA protected species

The NBDC evidence demonstrates a substantial overlap between birds recorded in the Lahinch coastal locality and the protected interests of these SPAs. The 2 km R08Y species report lists all six Cliffs of Moher Special Conservation Interest (SCI) species and six of the seven Mid-Clare Coast SCI bird species, including all five intertidal waders. Tables 1 and 2 set out the report's species record totals, last-record dates and original worksheet row locators.[35,42,43]

R08Y is the 2 km Cregg/Lahinch coastal recording square shown in Figure 1, comprising R0886, R0986, R0887 and R0987. It contains the mapped Cregg landfall and the adjoining Lahinch coastal locality. The 1 km reports provide further detail for R0986, R0886 and the southern coastal square R0885, with each source identified in the evidence schedule.[35,36,37,48,50,51]

Species	SCI code	Record count	Last record	Source row
Fulmar	A009	8	3 Sep 2024	51
Kittiwake	A188	8	21 Apr 2024	77
Guillemot	A199	3	20 Apr 2024	38
Razorbill	A200	16	2 Oct 2024	104
Puffin	A204	1	26 Sep 2016	101

Species	SCI code	Record count	Last record	Source row
Chough	A346	7	13 Nov 2024	36

Table 1. Cliffs of Moher SPA interests recorded in R08Y[35,42]

Species	SCI code	Record count	Last record	Source row
Cormorant	A017	25	9 Nov 2024	44
Barnacle Goose	A045	Not listed	-	-
Ringed Plover	A137	17	4 Sep 2024	111
Sanderling	A144	5	2 Sep 2024	118
Purple Sandpiper	A148	2	2 Jan 2020	102
Dunlin	A149	6	2 Sep 2024	47
Turnstone	A169	24	21 Nov 2024	137

Table 2. Mid Clare Coast SPA bird interests in R08Y[35,43]

Source for Tables 1 and 2: NBDC R08Y species report, Species Result worksheet. Record count denotes the number of occurrence records returned for the species; source row identifies its original worksheet row. Observation abundance is reported separately in Appendix A.[35,49]

The 1 km reports provide additional local detail. R0885, the coastal square immediately south of the mapped landfall, lists one Cormorant record last dated 6 September 2024. R0886 lists Cormorant and all five Mid-Clare waders in the I-WeBS 1994-2001 dataset, with a displayed last-record field of 31 December 2001, and separately lists two Kittiwake records last dated 14 August 2022. R0986 lists two Ringed Plover records last dated 11 April 2021 and five Turnstone records last dated 22 October 2022. These smaller-grid records document bird occurrence within the coastal area adjoining the proposed works.[36,37]

Record-level NBDC Birds of Ireland data provide specific observations across the bay. At Lahinch, three Chough were recorded on 13 November 2024 and five Turnstone on 21 November 2024. At Liscannor on 23 October 2024, the source records 77 Ringed Plover, four Sanderling, five Dunlin and one Turnstone; the Turnstone activity is recorded as feeding and the Sanderling and Dunlin activities as wintering. A Purple Sandpiper was recorded at Clahane on 13 November 2024. Each entry gives a stated spatial precision of 100 m. Appendix A reproduces the observation dates, coordinates, abundance fields and exact source RecordKeys. [49]

These records provide direct evidence of SCI species using the Lahinch and Liscannor Bay coast, including documented feeding and wintering activity.[49]

Separate local ecological evidence provides further context for the connected receiving environment. A July 2024 Appropriate Assessment Screening Report prepared by EirEco Environmental Consultants for Clare County Council identifies the Inagh River Estuary SAC as commencing downstream of the Lahinch Road Bridge, extending to the mouth of the estuary and including part of the intertidal zone along Lahinch Strand. It also records wintering wildfowl and waders using the coastal areas and lower estuary. This independently corroborates the connected estuarine and coastal ecological setting within which the proposed Cregg works would occur.[63]

Conservation objectives and ecological connections

NPWS's Cliffs of Moher conservation objectives, dated 30 May 2025, require restoration of favourable conservation condition for Kittiwake, Guillemot, Razorbill and Chough, and maintenance for Fulmar and Puffin. The seabird attributes address prey availability, foraging resources, connectivity and disturbance in areas ecologically connected to the colonies, including important areas outside the SPA. Chough requires consideration of its coastal foraging and roosting ecology. MARA must assess relevant effects against those operative attributes, including the intensity, frequency, timing and duration of disturbance and the role of the affected coastal and marine habitats.[42]

The Mid-Clare Coast objectives protect long-term wader population trends and the range, timing and intensity of their use of areas; Cormorant has specific prey, connectivity and disturbance attributes. NPWS's supporting document expressly addresses use of habitats outside the SPA that are ecologically connected to it. It explains that displacement can reduce food intake, increase flight costs and competition elsewhere, and that frequent disturbance can function like habitat loss. The assessment must therefore address the repetition, tidal timing and effect of the proposed activities on feeding and roosting opportunities.[43,46]

The documented local occurrence of these SCI species requires an express assessment of whether and how the Cregg shore, Lahinch coast and adjoining waters provide feeding, roosting and movement habitat for the designated populations. *Holohan* confirms the relevance of effects outside European-site boundaries where liable to affect their conservation objectives. MARA should require a reasoned species-specific appraisal of those ecological connections and potential effects, drawing on the local records, habitat and movement evidence and proportionate field evidence where necessary.[20,42,43,46]

The 11 October 2026 field evidence addressed in Issue 3 materially strengthens that ecological-connection question. GPS-referenced photographs document extensive honeycomb-worm tube-built habitat across the Cregg intertidal rock platform, in the same coastal environment used by the locally recorded SPA Special Conservation Interest species. The NIS itself associates Purple Sandpiper with rocky shoreline and intertidal reef habitat, while the Mid-Clare Coast objectives address feeding, roosting, prey, disturbance and the use of ecologically connected habitat outside the SPA boundary. Physical damage, fragmentation, machinery access and displacement at Cregg must therefore be assessed not only as effects on the Sabellaria feature itself but also as a potential supporting-habitat and prey-resource pathway to the relevant SPA conservation objectives.[4,42,43,46,61]

The locally recorded birds and their habitats also require protection outside SPA boundaries. Articles 3(2)(b) and 4(4) of the Birds Directive address habitat management inside and outside protected zones and the duty to strive to avoid pollution or deterioration outside SPAs. Article 5(d) prohibits deliberate disturbance significant having regard to the Directive's conservation objectives. Regulation 27 requires MARA to exercise its consent functions in compliance with the Directive and the Irish Regulations. MARA must assess the proposed intertidal plant, vessels, noise and access against these duties as well as SPA integrity. In VIRUS, the Court of Justice required a diligent, reasoned assessment based on reliable scientific data of the disturbance risk and preventive measures. An intention to harm birds is not necessary where the possibility of prohibited harm is accepted. Any operations that would cause prohibited effects must be excluded unless a lawful derogation is established; a MUL does not dispense with bird-protection requirements.[2,56,57]

The assessment must also explain its differing treatment of bird receptors. The revised NIS carries Guillemot, Razorbill and Puffin forward for underwater-noise assessment while excluding Cormorant, Fulmar and Kittiwake. MARA should examine the evidence supporting those exclusions against each species' exposure and conservation objectives, including Cormorant's diving and prey pathways. For Fulmar and Kittiwake, vessel-disturbance and foraging-resource pathways require assessment, including implications for Kittiwake's restoration objective. Underwater acoustic effects on diving birds and the machinery, personnel, airborne noise, visual disturbance and access-related displacement of shorebirds at Cregg require species-specific

treatment, together with physical disturbance of intertidal feeding substrates and prey. The bird controls identified in the NIS concern acoustic operations only. MARA must determine whether the intertidal activities can be authorised at all, including whether their effects can be avoided or mitigated sufficiently to satisfy the applicable SPA conservation objectives and site-integrity test. Any necessary exclusion of activities or areas must form part of that determination.[2,3,4,22,42,43]

The proposed timing increases the importance of a complete bird assessment. The revised NIS provisionally places the surveys in Q4 2026-Q1 2027, overlapping wintering-bird use, while the application requests a 24-month licence period. MARA should assess the seasons and tide states exposed under the final authorised programme, including relevant passage, wintering and breeding-season pathways. Any seasonal restriction relied upon must be defined and assessed as part of that programme. The baseline and effects assessment needed for the Appropriate Assessment conclusion must be available before determination, including the evidence needed to decide whether any proposed restrictions can make the survey programme acceptable. Pre-work checks cannot supply information needed to decide whether that programme may lawfully be authorised.[2,4,20,39]

Bird findings required before determination

The bird evidence raises a threshold question as to whether the proposed survey usage can lawfully be authorised. That question is now reinforced by GPS-referenced evidence of structured intertidal habitat within the same Cregg investigation area and, at strong photographic positions, within tens of metres of several indicative intrusive survey locations. The submitters request refusal of MUL260006 unless MARA can, before determination and on objective scientific information, establish the ecological connections, actual works footprint and effects sufficiently to satisfy Article 6(3). Reliance on later observers, pre-work checks, seasonal restrictions or contractor micro-siting cannot substitute for the baseline and effects assessment required to reach that conclusion. If MARA cannot rule out adverse effects on SPA integrity beyond reasonable scientific doubt, the affected usage cannot be authorised; if no coherent remaining programme independently satisfies the test, MUL260006 must be refused.[1,2,3,20,22,42,43,61,62]

The following findings are required:

(1) The actual licensed Cregg intertidal works and their locations, access routes and staging areas, reconciled with the offshore/no-intertidal-interaction screening premises. Figure 2 and the local bird evidence must be addressed against that footprint. If an activity is excluded from the usage assessed for this licence, that exclusion and its spatial scope must be explicit.

(2) A mapped bird baseline, using existing information and proportionate field surveys where necessary, sufficient for the affected seasons and tide states, recording species, numbers, dates, locations, feeding/roosting behaviour, movements and survey effort, with an express appraisal of the NBDC evidence in Tables 1 and 2 and Appendix A.

(3) A reasoned species-specific appraisal of links to the relevant SPAs and implications for their applicable conservation-objective attributes, including supporting feeding and roosting habitat outside site boundaries. MARA's current Stage 2 Appropriate Assessment must expressly address those effects wherever likely significant effects cannot be excluded on objective scientific information, and determine their implications for the integrity of the relevant SPAs before authorising the proposed activities.

(4) The intensity, frequency and duration of disturbance, potential loss of feeding opportunity and relevant in-combination pressures, assessed against the actual works programme. Any reliance on birds moving elsewhere must establish that suitable alternative habitat is available and capable of supporting them, taking account of tidal access, existing use and competition. A generic small-footprint or temporary-impact description does not resolve those questions.[42,43,46]

(5) Whether effective avoidance or mitigation is scientifically demonstrated to be feasible for the identified bird effects. Any measures relied upon must be sufficiently defined, assessed and enforceable before consent. Observers, pre-work checks, seasonal or tidal restrictions and stop-work triggers must be evaluated for their actual ability to exclude the identified adverse effects. Conditions cannot substitute for the evidence needed to establish that the programme is acceptable.[2,3,20,22,42,43,46]

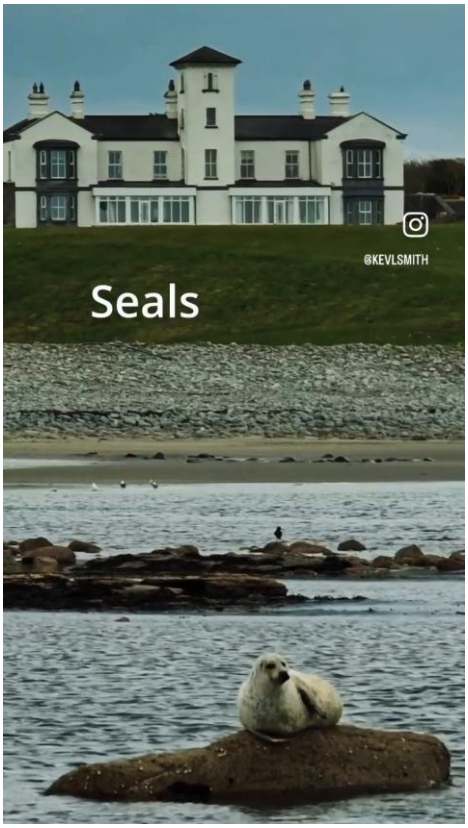
(6) Whether survey operations and areas must be excluded where adverse effects on the integrity of an affected SPA cannot be ruled out in the absence of reasonable scientific doubt, including exclusion of all proposed survey activity within an affected area where necessary. Any remaining survey programme must be precisely defined and assessed, both individually and in combination with other plans or projects, and must independently satisfy the requirements of Article 6(3). Where MARA cannot ascertain, on the basis of complete, precise and definitive scientific findings, that the remaining programme will not adversely affect SPA integrity, MARA cannot lawfully grant MUL260006 under Article 6(3). Conditions cannot defer the information or assessment necessary to establish that conclusion before determination.[1,2,3,20,22]

Grey Seals (*Halichoerus grypus*) and Harbour Seals (*Phoca vitulina*)

The local seal evidence requires express reconciliation with the receptor baseline relied upon by Uisce Éireann. The revised NIS characterises local seal interaction as infrequent and involving occasional transient individuals and relies on the absence of core haul-outs.[4] Yet Uisce Éireann's own Annex IV material records repeated Harbour Seal counts in the project-area region.[6] More recent systematic local evidence is substantially stronger. *Berrow's* 2025 Liscannor Bay survey comprised six surveys from June to September using UAV imagery and binocular observations at known or suspected haul-out sites.[40] The survey recorded both Grey and Harbour Seals repeatedly across the programme, with the combined Liscannor Bay–Mutton Island study-region count reaching 58 Grey Seals and 46 Harbour Seals on 11 August 2025 (not a bay-only total).[40]

The detailed site data record repeated Grey Seal use of Bar Trá during 2025: two animals on 21 June, two on 22 July, four on 11 August and three on 23 September, the latter comprising two adults and one juvenile. A Harbour Seal pup was recorded at Carrickadav on 22 July.[40] The 2026 follow-up report contains five dated survey summaries between January and April 2026, each recording both species, and states that the combined data show a consistent presence of Grey and Harbour Seals from November 2025.[41] The 2025 report also compiles wider-coast historical records. Its Hags Head to Loop Head rows record 64 Grey Seals and 27 Harbour Seals in 2012 and 48 Grey Seals and 55 Harbour Seals in 2017; these provide historical coastal context rather than comparable bay-only totals. Separate historical records include Grey Seal pups at Mutton Island.[40] The recent surveys demonstrate repeated, multi-season use of the local survey area, including the documented sites at Bar Trá and Carrickadav, and require express reconciliation with the NIS's infrequent/transient baseline.

Additional Cregg shoreline video evidence. The submitter-supplied 70-second MP4 copy of a publicly posted Instagram reel includes frames at approximately 00:40–00:42 and 00:54–00:57 showing an apparent seal resting out of the water on an exposed rock, with Moy House visible in the same frames. This supports identification of the Cregg/Moy shoreline and documents at least one apparent local haul-out observation relevant to potential intertidal and nearshore disturbance. The reel comprises edited footage; the species, original recording date, precise rock location and frequency of use remain unverified. A single observation does not establish regular haul-out occupancy or a breeding site. MARA should assess this site-specific evidence alongside the 2025–2026 seal surveys.[66]



Cregg shoreline seal video still (Ref. 66). Frame at approximately 00:41 showing an apparent seal on an exposed rock with Moy House in the background. Species and original filming date unverified.

Both seal species are protected under the Wildlife Act 1976. The documented haul-out and pup evidence must inform assessment of the applicable protections, including injury and wilful interference with or destruction of breeding or resting places under section 23(5). MARA must also address the NMPF's protection of important species, habitat use and underwater-noise effects. The absence of a designated haul-out within an investigation footprint cannot substitute for an assessment of the documented seals and their use of the affected waters and coast.[1,32,33,40,41,58]

Cetaceans (Bottlenose Dolphin, Common Dolphin and Minke Whale)

The Irish Whale and Dolphin Group (IWDG), in its 7 June 2025 publication on a County Clare marine-biodiversity initiative, states that Bottlenose Dolphins (Tursiops truncatus) associated with the Shannon Estuary population are frequently recorded in Liscannor Bay. The August 2026 revised NIS, at printed p.45, acknowledges potential population connectivity but characterises occurrence in the bay as "occasional and transient rather than regular or sustained" and not routine use of the project area. MARA must reconcile the geographically specific IWDG account with this baseline assumption and explain the implications for potential exposure, seasonal use and links to the relevant Annex II population and SAC conservation objectives.[4,9]

The same IWDG publication reports Common Dolphins (Delphinus delphis) and Minke Whales (Balaenoptera acutorostrata) in Liscannor Bay during summer. By contrast, the NIS impact assessment at printed p.63 treats Common Dolphins and migratory baleen whales as less likely to occur in the bay and consequently considers exposure risk minimal. Given the requested 24-month licence duration, the assessment should address the documented seasonal occurrence and the timing, locations, source characteristics and cumulative exposure of the operations that could be authorised, including the separate strict-protection requirements applicable to cetaceans.[4,9]

The IWDG account provides material, locally specific evidence that must be assessed rather than displaced by an unsupported assumption of infrequent or negligible receptor exposure before MARA determines the application.[2,3,4,9,33]

Basking Sharks (Cetorhinus maximus)

The same IWDG source reports Basking Sharks increasingly observed foraging during early spring in the Liscannor Bay area, with courtship aggregations observed west of the bay. The revised NIS expressly recognises a possible vessel-collision pathway involving Basking Sharks (printed p.25), but considers the risk low because of the relatively limited vessel numbers and slow operating speeds. Basking Sharks have been protected under section 23 of the Wildlife Act 1976 since 3 October 2022 (S.I. No. 485/2022). MARA should reconcile the documented seasonal occurrence with proposed vessel routes, speeds, operating periods, encounter procedures and the evidential basis for the low-collision-risk conclusion.[4,9,33,58]

Otters (*Lutra lutra*)

A July 2024 Appropriate Assessment Screening Report prepared by EirEco Environmental Consultants for Clare County Council provides recent, locally specific evidence of otter presence in the connected Inagh system. It records otter (Lutra lutra) activity along the Inagh River through Ennistymon and identifies otter as an Annex II and Annex IV species under the Habitats Directive. The same report describes the Inagh River Estuary SAC as extending downstream to the estuary mouth and including part of the intertidal zone along Lahinch Strand.[63]

The revised SISAA/NIS does not omit otter. It recognises that vessel presence and associated noise may cause temporary avoidance by otter in intertidal or nearshore habitat, and later screens otter out at Stage 1 on the stated grounds that it may occur only sporadically along the wider west Clare coastline, that the survey activities are confined to subtidal and offshore environments, that no survey is proposed along established otter resting or breeding sites, and that there is no credible pathway to the conservation objectives of an otter-designated SAC.[4] The July 2024 local evidence requires those premises to be revisited. Otter activity is documented in the connected Inagh system, while MUL260006 includes both intertidal works at Cregg and freshwater sampling/access within Area B upstream of Ennistymon.[63,64] The described Area B methods therefore require a reasoned appraisal of freshwater, estuarine and coastal connectivity, potential disturbance, access and any resting or breeding habitat, together with the separate Annex IV strict-protection duties before authorisation.[2,3,4,33,63,64]

Migratory Fish

Inland Fisheries Ireland (IFI) identified Atlantic salmon, sea lamprey and river lamprey as Annex II species requiring Appropriate Assessment screening, and European eel separately as a Critically Endangered receptor. IFI found no screening or justification for omitting the three Annex II species and recommended that they be screened and considered in mitigation.[10] The August 2026 revised SISAA/NIS does not contain a substantive assessment of salmon or lamprey.[4] A July 2024 local ecological assessment prepared for Clare County Council records that the Inagh River supports spawning by Atlantic salmon and that the fish pass at Ennistymon facilitates upstream salmon migration. Its screening methodology also recognises that, for water-dependent habitats or species, assessment may need to consider upstream and downstream catchment connections.[63]

Area B brings that freshwater pathway directly within the licensed survey footprint. The revised NIS specifies in-channel kick sampling and water-quality sampling upstream of the Falls Hotel, while Applicant Map 4 P2 separately defines the Area B licence boundary and three access points.[4,64] This materially reinforces the need to assess the timing, access arrangements and localised bed disturbance associated with kick sampling against salmon and other diadromous-fish movement, and to reconcile the precise freshwater reach before consent.

Survey effects in Area A, including underwater noise and vessel activity, must likewise be assessed for interaction with migratory fish using coastal and estuarine pathways connected to the qualifying interests and

conservation objectives of relevant European sites. European eel must also be addressed in the wider receptor and licensing assessment. *Commission v Germany (Moorburg)* confirms the importance of assessing migratory connections and having the necessary scientific certainty at authorisation, rather than relying on later monitoring.[1,10,11,33,63,64]

Flapper Skate (*Dipturus intermedius)*

The NBDC Explore Your Shore record-level export contains a Flapper Skate record at Lahinch dated 5 December 2020, expressly classified as Dead/Stranded, at WGS84 coordinates -9.36540692, 52.91552037 with 100 m spatial precision.[31] The reported finding coordinate plots within Area A, close to its coastal boundary.[21] This documented local stranding belongs in the conservation baseline. The broader NBDC R08 10 km species-list report separately lists five Flapper Skate records.[12] OSPAR and Marine Institute material identifies Flapper Skate as Critically Endangered in European waters and describes its coastal affinity, very late maturity and low reproductive productivity.[16,17,27]

The Flapper Skate evidence also requires a substantive licensing assessment independently of any European-site qualifying-interest status. Sections 30 and 121(2) require MARA to address the NMPF's protection of important species and their habitats, significant disturbance or displacement of highly mobile species, and underwater-noise effects on marine fauna. The assessment must establish relevant coastal and seabed habitat use, the exposure created by each permitted survey method and whether effective protection is achievable. The species' critically endangered status and low reproductive productivity make an unsupported assumption of negligible or rapidly reversible effects particularly inadequate. Where the applicable requirements cannot be met by a precisely defined, assessed programme, the affected usage must be excluded or the licence refused under section 119.[1,16,17,27,31,32,33]

Summary

Taken together, Issue 1 establishes documented local occurrence of all six Cliffs of Moher SCI species and six Mid-Clare Coast SCI bird species, repeated multi-season seal use of Liscannor Bay, an IWDG account of Bottlenose Dolphin, Common Dolphin and Minke Whale occurrence and seasonal Basking Shark foraging, recent locally specific evidence of otter activity in the connected Inagh system, the migratory-fish pathway identified by IFI reinforced by independent evidence of Atlantic salmon and upstream migration in the Inagh, and a Flapper Skate stranding record whose reported finding coordinate lies within Area A. MUL260006 also includes the separate freshwater Area B licence area upstream of Ennistymon, where the revised NIS proposes kick sampling and water-quality sampling. Figure 2 places approximately 102.3 ha of Area A within the R08Y tetrad that records the SPA bird interests, while Figure 2A identifies the additional freshwater footprint. The receptor assessment must therefore address the actual marine, intertidal and freshwater activities, their seasonal and spatial exposure and ecological connections, and reconcile the works with the bird-, cetacean-, otter- and migratory-fish screening premises, the marine-mammal exposure assumptions and the Basking Shark collision-risk assessment. These baseline findings inform the acoustic assessment in Issue 2 and the physical-disturbance assessment in Issue 3. Where the necessary Appropriate Assessment findings cannot be reached, the affected activities must not be authorised. If a precisely defined remaining programme cannot satisfy Article 6(3), MARA must refuse MUL260006 under that provision.[1,2,3,4,9,10,20,21,22,31,33,35,40,41,42,43,49,58,63,64]

Issue 2: Underwater Noise and Acoustic Zone of Influence

The receptors documented in Issue 1 require an assessment of exposure from the permitted survey programme. The revised SISAA/NIS proposes a 500 m Marine Mammal Observer (MMO) pre-start watch and soft-start procedures. That watch is an operational precaution; it does not establish the extent of underwater-noise exposure or demonstrate that effects beyond 500 m are acceptable. The material reviewed does not demonstrate a project- and site-specific acoustic Zone of Influence for the permitted combined survey spread.

Figure 3 illustrates the scale of the issue by comparing the proposed 500 m watch, the 1,000 m monitoring distance in Irish guidance for seismic sources, and the approximately 11 km range benchmark published by *Pace et al. (2026)*.[4,5,53]

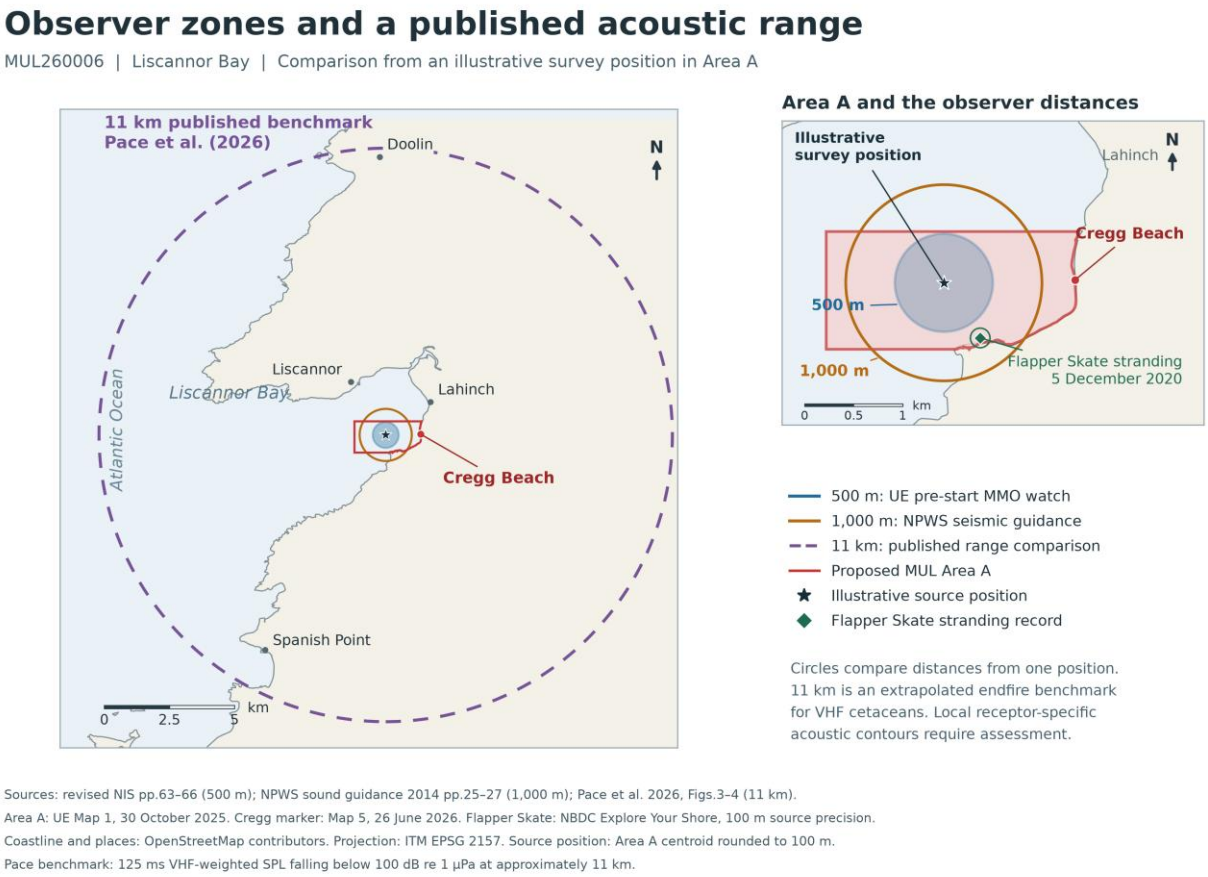


Figure 3. Observer distances and the published acoustic comparison. The circles compare distances from one illustrative offshore position within Area A; the operational observer zone follows the active vessel/source. Blue shows UE's 500 m pre-start watch; amber shows the 1,000 m seismic monitoring distance in Irish guidance; purple shows Pace et al.'s extrapolated 11 km VHF-cetacean benchmark. The inset identifies Cregg Beach and the NBDC Flapper Skate stranding record. The purple circle is a distance comparison, not a predicted Liscannor Bay impact contour.[4,5,21,31,51,52,53]

Why the observer zone does not establish the acoustic footprint

Pace et al. studied a simultaneous sparker, parametric sub-bottom profiler and USBL survey spread. Their endfire regression, extrapolated beyond its 10–2,000 m measurement domain, estimated a range of approximately 11 km to the 100 dB re 1 µPa benchmark for 125 ms sound pressure level weighted for very-high-frequency cetaceans, including harbour porpoise. That published result supports assessment over kilometre-scale distances and identifies low-frequency sparker energy as relevant to phocid seals. MARA needs the local acoustic footprint and receptor-specific effects assessment for the equipment actually permitted in Liscannor Bay.[5,29]

Irish guidance explicitly treats boomers and sparkers as seismic surveys and specifies a 1,000 m monitored zone, subject to project-specific propagation information and a regulator-agreed distance modification. Its separate sonar/pinger/chirp provisions use 500 m. The seismic protocol also requires a full pre-start watch and ramp-up after a break exceeding 10 minutes; the revised NIS uses a generic break exceeding 30 minutes. MARA must reconcile the permitted boomer/sparker operations with the correct activity-specific protocol, or identify

and justify any agreed departure. Neither monitoring distance replaces an assessment of the full acoustic footprint.[4,53]

The acoustic source envelope is not yet shown to be binding or completely assessed. MARA's earlier screening report recorded that the applicant had not then specified the multibeam echosounder make, model or frequency and used a representative 200–700 kHz range. Uisce Éireann's 26 June 2026 response subsequently identified an indicative R2Sonic 2022 multibeam system operating at 400 kHz and a possible Applied Acoustics AA201 Boomer Cat arrangement. The response expressly leaves equipment selection and reasonable refinement dependent on the contractor, site conditions and sea state; the application and revised NIS also contemplate boomer/sparker alternatives. MARA must reconcile the later equipment examples with the screening and NIS assumptions and assess enforceable maximum limits encompassing every permitted substitution: source level, frequency and spectrum, pulse characteristics, duty cycles, repeated passes and simultaneous operation. Exposure must be considered for local bathymetry, seabed and water conditions and all source positions within Area A; a radius around one illustrative vessel position is not an effects contour for a moving survey.[4,20,38,39,53]

MARA's Stage 1 determination concluded that likely significant in-combination effects could not be excluded and adopted a 6 km assessment scope based on assumed underwater-noise range and a harbour-porpoise Effective Deterrence Range. The revised NIS proposes reviewing other marine projects within that area before mobilisation and rescheduling acoustic operations to avoid concurrent noise-generating activity. MARA must establish before determination that the 6 km scope covers the relevant effects of the actual survey spread, receptor use and cumulative exposure, and that any later scheduling discretion is sufficiently bounded. The observer radius, disturbance range and in-combination assessment area answer different questions and require separate justification.[2,4,5,20,29,38]

The acoustic assessment must also address the requirements independently of European-site integrity. Underwater Noise Policy 1 of the NMPF calls for assessment of affected marine fauna and compliance with Article 12 strict protection. All cetaceans are Annex IV species, and Eurasian otter is likewise protected under Annex IV. Regulation 51 prohibits deliberate killing or disturbance and damage to breeding or resting places, notwithstanding a public-authority consent, except under a lawful derogation. UE's NMPF assessment relies on MMOs, PAM and soft start preventing population-level marine-mammal effects. MARA must establish how the permitted equipment, operating limits and effective controls satisfy the separate strict-protection requirements. If lawful protection cannot be demonstrated for a permitted operation, it must be excluded or the licence refused where no lawful programme remains.[1,2,3,4,6,32,33,63]

Consequences for the documented local receptors

Grey and Harbour Seals. Issue 1 documents repeated, multi-season use of Liscannor Bay, including the combined Liscannor Bay–Mutton Island study-region totals of 58 Grey Seals and 46 Harbour Seals on 11 August 2025, as well as nearer-site records at Bar Trá and a Harbour Seal pup at Carrickadav. Those records require an assessment of exposure during feeding, movement between haul-outs and use of areas occupied by pups. The assessment must distinguish peak and cumulative sound exposure relevant to hearing injury from disturbance, masking and loss of feeding opportunity. A 500 m pre-start clearance does not establish the acceptability of those effects across the seals' wider use of the bay.[4,5,40,41,53]

Cetaceans. The locally specific IWDG account described in Issue 1 must be reconciled with the NIS statements at printed pp.45 and 63. In particular, the assertion of frequent Bottlenose Dolphin records, and seasonal reports of Common Dolphins and Minke Whales, require an assessment of potential exposure during the authorised survey seasons, source operation and vessel movement across Area A. The assessment must distinguish potential SAC population connectivity and Article 6(3) questions from the separate Annex IV disturbance requirements applicable to all cetaceans.[2,3,4,9,33,53]

Basking Sharks. Although the primary pathway recognised by the NIS is vessel collision rather than acoustic disturbance, the reported spring occurrence of this protected species is relevant to the timing, routing and operating controls of the same marine survey programme. MARA should explain how the operational limits relied upon to find low collision risk would function when animals are encountered, and whether those limits are sufficiently defined before any grant.[4,9,33,58]

Otters. The revised NIS itself recognises that vessel presence and associated noise may cause temporary avoidance by otters in intertidal or nearshore habitat.[4] The July 2024 Clare County Council-commissioned report records actual otter activity in the Inagh system.[63] The acoustic and disturbance assessment should therefore address whether the Cregg intertidal and nearshore works, vessels and associated noise interact with otter movement or habitat, rather than relying solely on the absence of a nearby SAC for which otters are a qualifying interest. The evidence does not establish Cregg occupancy; it establishes a locally documented receptor whose ecological connectivity must be reconciled with the NIS screening assumptions and the applicable strict-protection requirements.[2,3,4,63]

Migratory fish. IFI identifies Atlantic salmon, sea lamprey, river lamprey and European eel and expressly raises the missing diadromous-fish screening. The July 2024 EirEco report independently records Atlantic salmon spawning in the Inagh River and the Ennistymon fish pass facilitating upstream migration.[63] The acoustic assessment must examine their coastal and estuarine movement pathways, survey timing, repeated exposure and potential disruption of migration or feeding. Fish detect particle motion, with species-specific sensitivity to sound pressure; assessment confined to cetacean-weighted pressure levels would omit a relevant exposure component, particularly near the seabed. MMO clearance does not establish protection of fish. Effects on migration connected to European-site qualifying interests must be addressed in the Appropriate Assessment.[10,11,54,63]

Flapper Skate. Figure 3 plots the reported finding location of the NBDC Dead/Stranded record of 5 December 2020 within Area A, with its stated 100 m spatial precision. The assessment must establish potential live use of relevant coastal and seabed habitat and examine this critically endangered species against the actual survey methods, including repeated acoustic passes and potential particle-motion or substrate-vibration exposure from intrusive operations. Its sensory biology and habitat use require a species-specific assessment, rather than reliance on marine-mammal observer clearance or transfer of a porpoise sound criterion. The conservation and substantive licensing implications are developed in Issue 1.[1,16,17,27,31,33,54]

Acoustic findings required before determination

The map and local receptor evidence require a decision on whether the permitted surveys can be carried out without unacceptable effects on the documented receptors. The submitters request reasoned findings on:

(1) The defined worst-case equipment and operating envelope, and mapped receptor-specific acoustic exposure from all permitted source positions and combined operations, addressing hearing injury, cumulative exposure, disturbance and masking, and sound pressure, particle motion or substrate vibration as relevant.

(2) The reconciliation of the 500 m protocol with the boomer/sparker provisions in Irish guidance, including the monitoring distance, restart and ramp-up requirements and any regulator-agreed modification. Any reliance on observations during darkness, poor visibility or after operations commence must demonstrate that the controls can achieve the protection assumed in the assessment.[4,53]

(3) The incorporation of the local seal, cetacean, otter, migratory-fish, Flapper Skate and Basking Shark evidence, and the diving-bird receptors addressed in Issue 1, into the effects assessment, including seasonal use, feeding and movement pathways, vessel-collision risk and ecological connections to the relevant European sites. For cetaceans, the assessment must reconcile the IWDG evidence with the revised NIS baseline and exposure assumptions, and address the separate Annex IV protections. For otter, the finding must

reconcile the July 2024 Inagh activity evidence with the revised NIS Stage 1 assumptions and address the separate Annex IV strict-protection requirements.[2,3,4,9,33,58,63]

(4) The scientific adequacy of the 6 km in-combination scope, and enforceable limits on survey timing, concurrent operations and repeated exposure sufficient to support the conclusions reached before consent.

(5) Whether the unresolved acoustic and receptor-baseline deficiencies permit any positive authorisation finding at all. The submitters request refusal of MUL260006 on the present record. If MARA considers that a narrower programme may remain capable of authorisation, every affected operation and area must first be expressly excluded and the precisely defined remainder must independently satisfy Article 6(3) and the other applicable statutory requirements. Observer requirements, later scheduling and post-consent checks cannot supply evidence needed to decide that question.[1,2,3,20,22]

Issue 3: Cregg Beach Honeycomb Worm Habitat and Physical Disturbance

On 11 October 2026 [redacted] photographed honeycomb-worm tube-built habitat on the Cregg intertidal rock platform. The original survey comprises 174 GPS-tagged iPhone photographs and 24 associated Compass screenshots, grouped into 24 representative camera positions. Seventeen positions provide strong and two moderate photographic evidence of characteristic honeycomb-worm tube structures; five document surrounding conditions without establishing presence or absence. The GPS-referenced photographs document extensive honeycomb-worm (*Sabellaria alveolata*) tube-built formations at Cregg Beach. The photographs do not independently verify live occupancy of individual tubes; the principal outstanding questions concern current occupancy and the habitat's full extent, distribution and continuity, requiring assessment by a suitably qualified marine ecologist. Local NBDC records also independently document Sabellaria alveolata occurrence in the wider Cregg locality.[30,35,36,61,65]

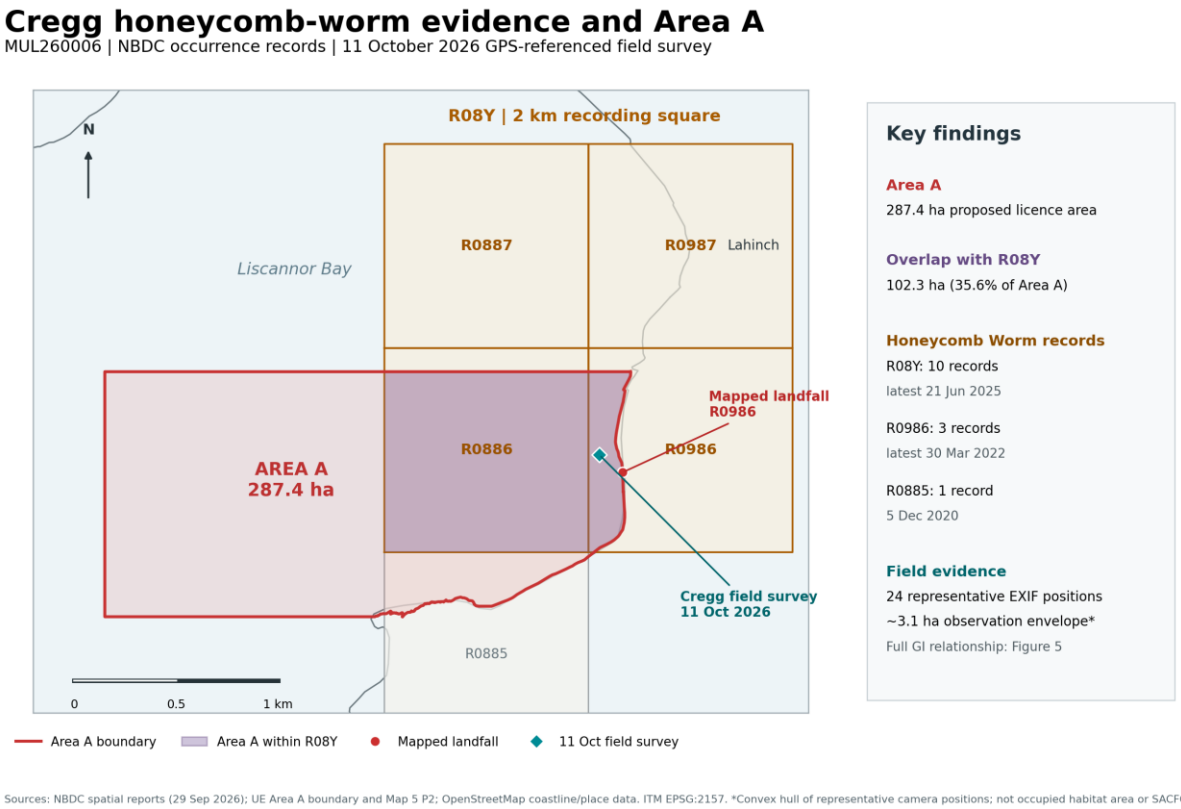


Figure 4. Hybrid Cregg habitat overview: proposed Area A, R08Y recording-grid overlap, mapped landfall and 11 October 2026 field-survey locality. NBDC reports record Honeycomb Worm in R08Y, in landfall-containing R0986 and in R0885 immediately to its south; the reports are nested and their occurrence counts are not additive. The 24 representative camera positions span an observation envelope of approximately 3.1 ha. The full P2 investigation relationship is shown in Figures 5A and 5B.[21,30,35,36,48,51,52,61]

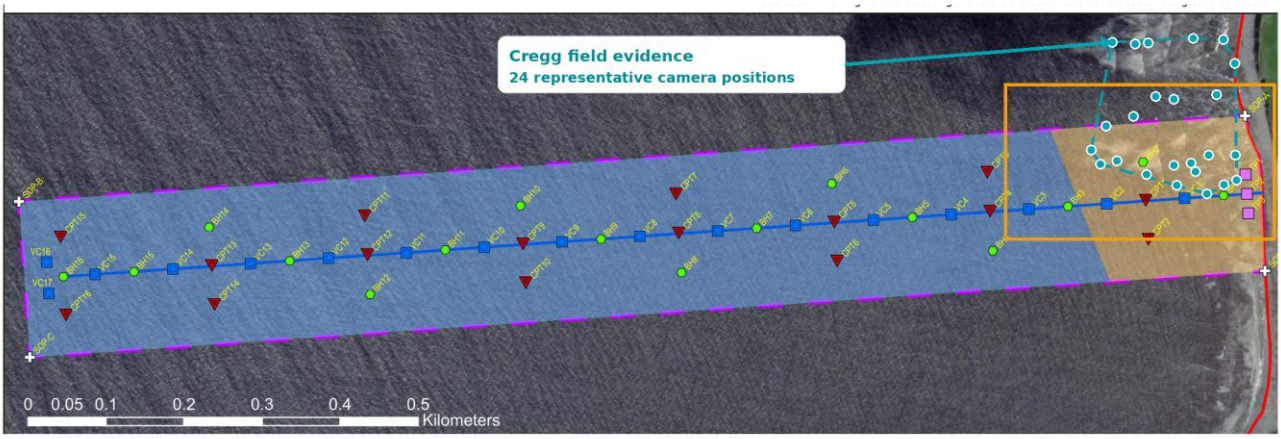
Field evidence and Map 5 P2 proximity

The 24 representative camera positions comprise 15 outer and nine inner observations and span an approximately 3.1 ha observation envelope. Device-reported positioning uncertainty is generally several metres; Compass screenshots provide consistency checks. The fieldwork did not establish the northern or

other outer limits of the aggregation. The source audit and coordinate calculations are documented in the evidence register. A concise position-by-position register is provided in Appendix B.[61,65]

Figure 5A | Complete Map 5 P2 investigation layout

All 52 printed applicant stations are shown; field evidence is summarised without obscuring the nearshore positions.



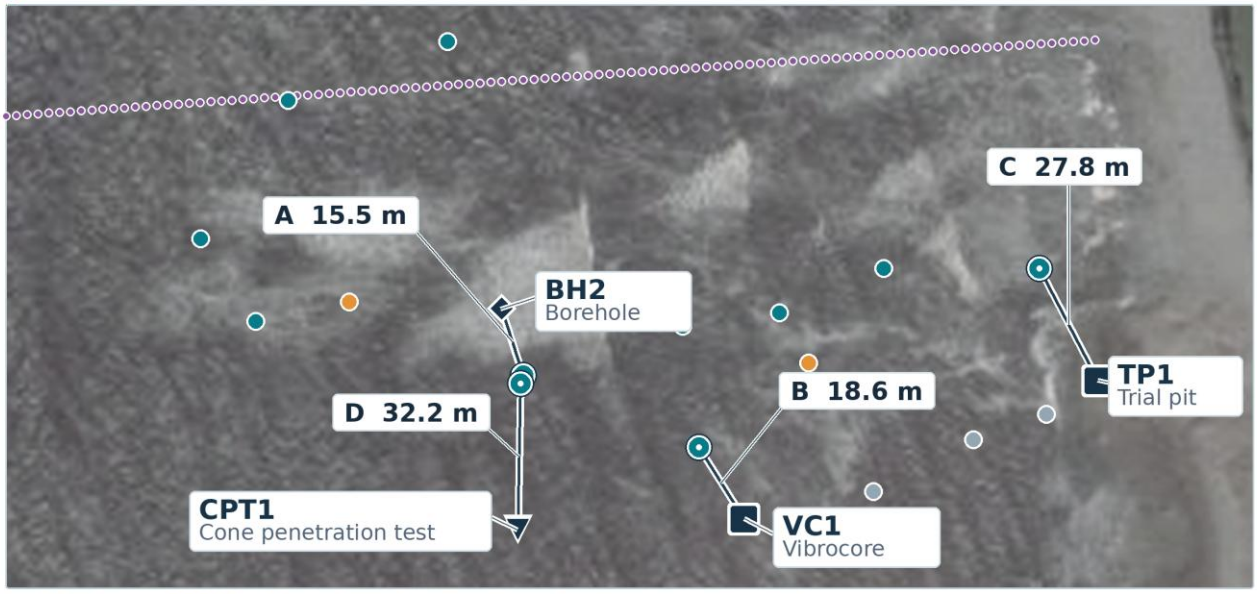
52 P2 stations: 16 boreholes · 16 CPTs · 17 vibrocores · 3 trial pits

Cyan points/outline = representative camera positions and observation envelope only; not a habitat boundary or occupied-cover estimate. Orange box = Figure 5B detail.

Source: Uisce Éireann / Mott MacDonald Map 5 P2 (2 July 2026) + submitter EXIF/GPS dataset. Applicant P2 drawing remains controlling.

Figure 5A. Map 5 P2 investigation layout showing all 52 applicant stations (16 boreholes, 16 CPTs, 17 vibrocores and three trial pits) and the 24 representative camera positions. The orange box identifies the area enlarged in Figure 5B. Investigation symbols indicate proposed locations, not complete machinery or access footprints.[51,61,62]

FIGURE 5B **CREGG WORKS–PROXIMITY DETAIL**
Geotagged photographs compared with indicative Uisce Éireann investigation stations



MAP KEY Purple dotted line: northern geophysical survey limit
Strong evidence · Moderate evidence · Worm tubes not clearly visible
Turquoise rings: original photograph locations · Dark symbols: Uisce Éireann investigation stations

FOUR GPS-TO-STATION DISTANCES

A	IMG_6472 → BH2	15.5 m	B	IMG_6429 → VC1	18.6 m
C	IMG_6439 → TP1	27.8 m	D	IMG_6471 → CPT1	32.2 m

GPS-to-symbol-centre distances are approximate, not clearances from worm habitat or actual works.
Applicant coordinates and final working/access areas require confirmation before any activity.
Sources: UE / Mott MacDonald Map 5 P2 (2 July 2026); original iPhone EXIF data (11 October 2026).

Figure 5B. Cregg detail from Map 5 P2. The purple dotted line identifies the northern survey-area limit, not a habitat boundary. The four independently checked camera-to-indicative-station distances are IMG_6472–BH2 15.5 m, IMG_6429–VC1 18.6 m, IMG_6439–TP1 27.8 m and IMG_6471–CPT1 32.2 m. Grey camera positions do not establish absence of Sabellaria. Distances are not clearances from occupied habitat or full works footprints. The four A-D distances are reconciled in Appendix B, Table B1. [51,61,62,65]

Map 5 P2 is the survey-layout baseline for Figures 5A and 5B. The figures show representative camera positions and four selected individual photograph locations for clarity; the complete coordinate dataset is retained in the technical evidence. All applicant station locations remain indicative and may require final setting-out. The complete 24-position register is provided in Appendix B, Table B2.[51,61,62,65]

Independent spatial check. The four Figure 5B distances were recalculated from original camera coordinates and Map 5 P2 using projected and geodesic methods. Their computational agreement does not remove iPhone positioning uncertainty or establish the applicant's final station locations. Full methods, individual measurements and source-file checks are in Reference 65.[62,65]

The decisive question is whether the occupied tube-built habitat intersects the full working footprint of the proposed investigations. Neither the habitat boundary nor the final intrusive positions, tracked access routes, turning areas and staging areas has been established. Accordingly, the measured camera-to-symbol distances cannot demonstrate ecological separation: a physical intersection remains possible and must be resolved before consent rather than left to contractor micro-siting.[30,51,61,62,65]

The NBDC reports provide geographically specific corroboration of Honeycomb Worm occurrence in the same coastal setting, while not delineating the photographed aggregation. R08Y contains 10 Honeycomb Worm

records, latest 21 June 2025; R0986 contains three records, latest 30 March 2022, and contains UE's mapped Cregg landfall; and R0885 immediately to the south contains one record dated 5 December 2020.

Honeycomb worms can build three-dimensional biogenic habitat. NPWS identifies intertidal honeycomb reefs formed by Sabellaria Alveolata, while Irish Wildlife Manual 150 and the Irish Sabellaria study describe habitat complexity, associated fauna and vulnerability of tube-built structure to fragmentation, trampling and tube breakage. The assessment must therefore address the structure and ecological function of the local tube-built feature and supporting rocky shore rather than treat it as isolated individual worms or assume that a small footprint relative to Liscannor Bay is ecologically negligible.[13,14,23,35,36]

Firth et al. (2021) further demonstrates that the ecological significance of *Sabellaria alveolata* habitat cannot be determined solely by the abundance of living worms. The study found that retrograding (declining) reef structures can support substantial associated biodiversity, while even degraded or unoccupied tube-built formations may retain important ecological functions and provide settlement substrate for future reef development. The authors also identify trampling and other physical disturbance as processes capable of accelerating reef degradation. Accordingly, the potential ecological significance of the documented Cregg habitat must be assessed across its different structural and developmental conditions, including any partly unoccupied formations. The inability of photographs alone to establish live occupancy does not demonstrate ecological insignificance. MARA should therefore assess the potential effects of the proposed intrusive investigations and machinery movements on both the existing habitat structure and its associated ecological functions before determining whether the proposed maritime usage can lawfully be authorised.[13]

The submitters' GPS-referenced photographs document extensive honeycomb-worm (*Sabellaria alveolata*) tube-built habitat at Cregg Beach. The physical presence of this ecological receptor is well supported. A systematic survey by a suitably qualified marine ecologist is needed to verify current live occupancy and establish the habitat's full spatial extent, distribution and continuity, patch dimensions, tube-built height and hummock thickness, percentage cover, ecological condition, associated biological communities, and classification against the criteria for Annex I habitat 1170 (Reefs). If MARA needs that information to determine whether the proposed investigations can proceed without unacceptable effects, it must be obtained and assessed before authorisation. Figures 6A-6D provide a broader photographic record of works-proximate observations, tube morphology, raised structure, intertidal setting and spatial variation.[2,3,13,14,20,22,30,61]

Photographs near indicative investigation locations



IMG_6472 (P10)
Tube openings among algae, with pen context.



IMG_6471 (P10)
Tube-bearing rock with algal interruption.



IMG_6439 (P06)
Tube-bearing pool margin and bedrock setting.



IMG_6429 (P05)
Granular tube patches at a rock-pool edge.

Original photographs | 11 October 2026 | Cregg

Figure 6A. Selected original photographs showing characteristic honeycomb-worm tube-built structures near the Cregg investigations. The related camera-to-station distances are presented in Figure 5B.[30,61,62]

Tube morphology and raised structure



IMG_6598 (P24)
Packed granular tube walls and openings.



IMG_6449 (P08)
Raised tube-built margin beside a rock pool.



IMG_6452 (P08)
Tube-built edge, with ruler in the photograph.



IMG_6501 (individual GPS point)
Tube aggregation partly covered by algae.

Original photographs | 11 October 2026 | Cregg

Figure 6B. Close views showing tube morphology and raised structures characteristic of honeycomb-worm tube aggregations.[30,61]

Intertidal setting and distribution



IMG_6444 (P07)
Tube-bearing bedrock with natural gaps.



IMG_6463 (P09)
Tube patches within a coastal rock mosaic.



IMG_6509 (P16)
Wider bedrock platform, patches and pools.

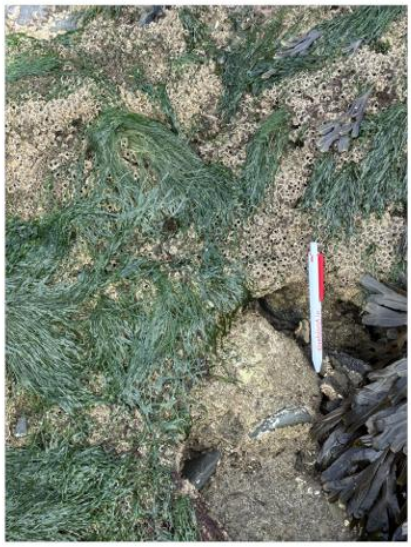


IMG_6594 (P24)
Tube-bearing rock ledge and platform setting.

Original photographs | 11 October 2026 | Cregg

Figure 6C. Photographs illustrating the Cregg intertidal setting and the spatial distribution of tube-bearing patches.[30,61]

Variation in tube-bearing patches



IMG_6488 (P12)
Tube patches interspersed with green algae.



IMG_6534 (P18)
Raised patches, algae and exposed rock.



IMG_6576 (P22)
Raised edge and cavity, with pen context.



IMG_6562 (P21)
Locally dense tube mat beside exposed rock.

Original photographs | 11 October 2026 | Cregg

Figure 6D. Photographs showing variation in patch density, relief and intervening substrate.[30,61]

SACFOR: what can and cannot be concluded

The submitters' GPS-referenced photographic evidence from 11 October 2026 documents extensive honeycomb-worm (*Sabellaria alveolata*) tube-built habitat at numerous locations across the Cregg intertidal rock platform, including spatially distributed and locally dense formations. The physical presence of this habitat is supported by the field evidence; its full extent, current occupancy, structural characteristics and formal abundance classification remain to be assessed.

Under the species-specific SACFOR criteria reproduced in Figure 7, Super-abundant (S) requires massive patches forming hummocks at least 60 cm thick and more than 10,000 m^2 of total cover within a 30-minute search. Abundant (A) requires numerous large patches, hummocks exceeding 30 cm in thickness and more

than 1,000 m^2 of total cover within a 30-minute search. Although the photographic evidence demonstrates substantial localised habitat development, the 11 October field exercise was not conducted as a standardised SACFOR survey and did not systematically measure total occupied cover or hummock thickness against these prescribed thresholds. The absence of those measurements prevents a formal abundance classification; it does not diminish the evidence establishing the habitat's presence or demonstrate that its abundance falls below any particular SACFOR category. [13,61]

The approximately 3.1 ha camera-observation envelope demonstrates the geographical distribution of the recorded observations but must not be confused with the total area occupied by *Sabellaria alveolata* or used to satisfy the SACFOR area thresholds. A systematic survey by a suitably qualified marine ecologist is therefore required to delineate the full occupied extent, quantify habitat cover, assess patch distribution and continuity, measure tube-built height and hummock thickness, and determine the appropriate formal SACFOR abundance classification. That assessment is necessary to establish the full scale and ecological significance of the documented habitat and its potential interaction with the proposed survey operations - not to establish whether the habitat exists.[13,61]

Class	Patch structure	Total cover in a 30-minute search
S Superabundant	Massive patches forming hummocks at least 60 cm thick.	More than 10,000 m²
A Abundant	Numerous large patches, almost always more than 1 m², with hummocks more than 30 cm thick.	More than 1,000 m²
C Common	Numerous large patches, many more than 1 m²; sheets or veneers less than 30 cm thick.	More than 100 m²
F Frequent	Many scattered small patches, rarely more than 1 m²; some tubes straight or perpendicular to the substrate.	At least 100 m²
O Occasional	Scattered small patches or veneers closely adhering to rock or hard substrate.	Less than 10 m²
R Rare	Scattered tubes closely attached to the substrate.	No more than a couple of m²
N Not seen	Not observed in the search.	No observed cover

Figure 7. Species-specific SACFOR criteria for Sabellaria alveolata, adapted from Firth et al. (2021), Table 1, itself adapted from Cunningham et al. (1984). No Cregg category is selected. Patch structure and search-area criteria must be considered together; photographs alone do not supply the prescribed measurements.[13]

Physical disturbance and the assessment gap

The revised SISAA/NIS places intrusive investigations at Cregg Beach: intertidal CPTs; up to four intertidal trial pits using a mini-excavator or hand digging; up to four dynamic sampling/probing positions using a tracked mini-rig; and landfall-related boreholes for trenchless-construction feasibility. Trial pits and probing are to be spaced across the beach width. Map 5 P2 separately specifies provisional trial pits approximately 1.5 m wide, 3 m long and up to 4 m deep, and states that BH1 may be undertaken using land-based plant if intertidal access permits. These are not merely point observations on a map: the physical-disturbance footprint includes excavation, penetration, plant access, manoeuvring and staging. Where those activities intersect tube-built structure they can crush, break, fragment or remove it, while local sediment and substrate disturbance can affect adjoining patches. The Irish Sabellaria literature identifies physical fragmentation, trampling and tube breakage as relevant pressures on S. alveolata structure. The P2 GeoPDF analysis places strong photographic

honeycomb-worm tube-structure observations within approximately 16-33 m of several indicative intrusive symbols. Because camera positions do not define the habitat boundary and applicant symbols do not define the final working footprint, the complete operational envelope must be assessed before MARA determines the licence.[4,13,14,39,51,61,62]

There is also a material assessment-envelope discrepancy in the maximum investigation programme. Table 2-1 of the August 2026 revised SISAA/NIS specifies up to 10 CPTs and 15 vibrocores. Map 5 P2 depicts 16 CPT positions and 17 vibrocore positions and states that the licence should allow up to 20 CPTs and up to 20 vibrocores within the marine GI site boundary to accommodate repositioning. The drawing further states that exploratory-hole positions are indicative and will be finalised after the marine surveys. MARA should therefore identify the maximum quantities and relocation envelope actually proposed for authorisation and establish that the environmental assessment covers that maximum programme. Assessment of the smaller NIS quantities cannot, without reconciliation, demonstrate assessment of the larger P2 licence allowance. There is a further scope inconsistency: Uisce Éireann's 26 June response states that a mini boring rig with probing attachment is not anticipated within the maritime area and need not be assessed under the application, whereas the August NIS includes up to four intertidal dynamic sampling/probing positions using a tracked mini-rig. MARA should establish whether this is a subsequent programme change, whether the activity is proposed for authorisation and how its full tracked-plant operating footprint was assessed.[4,39,51]

Tracked-plant access materially enlarges the disturbance footprint beyond the investigation points themselves. A tracked mini-rig or mini-excavator must reach each work location, manoeuvre at it and leave it; the relevant envelope therefore includes the entry point, travel route, track contact width, turning and reversing areas, repeated passes, working area and any staging location. Where those movements cross Sabellaria-bearing substrate, direct crushing, tube breakage and fragmentation are credible physical pathways. Movement close to a patch could also affect neighbouring tube-bearing structure through edge breakage, displacement of cobble or rock and local sediment mobilisation. The magnitude cannot be quantified from the present record because the applicant has not defined the plant type and operating weight for each route, track contact dimensions or ground pressure, number of passes, turning/reversing areas or staging locations. Relocating a nominal investigation point therefore does not demonstrate avoidance if the machinery needed to reach it would traverse or disturb intervening habitat.[4,13,14,39,51,61,62]

The assessment record does not address the Cregg honeycomb-worm tube-built habitat or the full tracked-plant operating footprint. Neither the revised SISAA/NIS nor MARA's Stage 1 report identifies Sabellaria by name. MARA's Stage 1 physical-disturbance finding relies on a limited disturbance-footprint rationale, while the Cregg programme also includes trial pits, CPTs, boreholes and tracked-rig probing. The revised NIS compares disturbance with habitat available across Liscannor Bay and adopts a generic expectation of rapid benthic recovery. That is not a feature-specific assessment of a three-dimensional tube-built habitat. The record does not establish how much of the local feature could be crushed, broken, removed or fragmented; the structural and ecological function of affected substrate; effects on neighbouring patches from tracked access or local sediment disturbance; recovery prospects; or whether the final intrusive, access, manoeuvring and staging footprints intersect the aggregation. A small footprint relative to the bay does not answer those site-specific questions.[4,13,14,30,38,39,51,61,62]

Statutory assessment, exclusion and refusal

The applicant's NMPF consistency conclusions require reconsideration. Section 30(1) and (2)(b) of the Maritime Area Planning Act 2021 requires public bodies, consistently with their functions, to secure NMPF objectives when authorising maritime usage; section 121(2) requires MARA to have regard to the NMPF and the State's relevant environmental obligations. Biodiversity Policy 2 addresses significant reductions in important habitats' distribution and net extent, while Sea-floor and Water Column Integrity Policy 1 addresses relevant significant adverse effects on marine habitats. Sea-floor and Water Column Integrity Policy 2 separately requires proposals, including those increasing maritime access, to demonstrate avoidance, minimisation or

mitigation, in that order, of adverse impacts on important habitats and species. The complete tracked-plant entry, access, manoeuvring and staging footprint is material to that policy. MARA should determine whether Biodiversity Policy 3 applies to the affected natural-capital assets, including its Government-recognition qualification, and explain any conclusion of non-applicability. Important-habitat and supporting-habitat status must be appraised rather than assumed from the documented honeycomb-worm structures alone. UE nevertheless labels Biodiversity Policy 2 Compliant, Biodiversity Policy 3 N/A and both Sea-floor Integrity Policies 1 and 2 N/A (Policy 2 being cross-referred to Policy 1), while relying on later surveys to identify sensitive habitats for avoidance. MARA should give a reasoned assessment of Policy 2 for the actual proposed access and operations, without treating the documented honeycomb-worm occurrence alone as proof of every habitat classification. The Cregg photographs and NBDC evidence require feature-specific, reasoned findings on those conclusions before authorisation.[1,30,32,33,35,36]

The European Communities (Environmental Liability) Regulations 2008 (S.I. No. 547/2008) establish a separate statutory framework for the prevention and remediation of environmental damage, administered by the Environmental Protection Agency (EPA). Importantly, the Regulations extend protection to natural habitats listed in Annex I of the Habitats Directive, including those occurring outside designated Special Areas of Conservation (SACs). The documented honeycomb-worm (*Sabellaria alveolata*) tube-built habitat at Cregg Beach therefore warrants consideration of whether the formations qualify as Annex I habitat 1170 (Reefs). Establishing their full extent, structure and ecological condition is particularly relevant because the Regulations assess significant adverse effects on habitat conservation status against baseline conditions and the criteria in Schedule 1. Although the application of the environmental-liability regime depends on the circumstances specified in Regulation 3, and the present evidence does not itself establish statutory environmental damage or an imminent threat, the potential protection of this habitat reinforces the importance of accurately establishing its ecological status and significance before the proposed survey activities are authorised. The EPA's separate regulatory responsibilities do not diminish MARA's obligations when determining MUL260006.[34]

On the present record, refusal is the appropriate licensing outcome, not a post-consent instruction to identify and avoid the feature later. The field evidence identifies a spatially distributed and locally dense honeycomb-worm tube-built habitat in the same intertidal sector as intrusive and tracked-plant activities. MARA cannot use later contractor micro-siting, a pre-work walkover or an ecological clerk of works to supply information that is material to the consent-stage assessment. The submitters therefore request refusal of MUL260006 under section 119 and, insofar as the European-site integrity test is engaged, under Article 6(3). Only if, before determination, a narrower and precisely defined programme is supported by the ecological and operational information necessary to assess it against all applicable statutory tests should any partial grant be considered.[1,2,3,20,22,33,34,61,62]

The Cregg evidence also requires express consideration of the European-site pathways identified in Issue 1. SPA Special Conservation Interest species, including intertidal waders, are documented using the Lahinch/Liscannor Bay coast, and the applicable conservation material addresses supporting feeding and roosting habitat, prey resources, connectivity and disturbance outside SPA boundaries. Physical damage or fragmentation of the tube-bearing rocky intertidal substrate must therefore be assessed as a potential supporting-habitat and prey-resource pathway wherever it may affect the relevant conservation objectives. If MARA cannot exclude adverse effects on site integrity beyond reasonable scientific doubt on the evidence lawfully available before determination, the affected usage cannot be authorised. Habitat delineation and works-overlap information essential to that conclusion cannot be deferred to a condition requiring later mapping or ecological approval.[2,3,20,22,42,43,46,61]

Reef and Sabellaria findings required before determination

MARA should record reasoned findings, supported by identifiable evidence available before determination, on the following:

(1) Habitat identification, extent and ecological status. The full spatial extent, distribution, structure and condition of the documented honeycomb-worm (*Sabellaria alveolata*) tube-built habitat at Cregg Beach, informed by the submitters' GPS-referenced photographic evidence, NBDC records and Figures 4-6D. The assessment must establish occupied area, patch dimensions and continuity, tube-built height or hummock thickness, percentage cover and associated ecological communities, and determine the habitat's status against Annex I habitat 1170 (Reefs) criteria and the species-specific SACFOR classification framework. [13,14,23,30,35,36,61,65]

(2) Investigation programme and authorised scope. The maximum investigation programme and permitted relocation envelope, reconciling the revised NIS limits of 10 CPTs and 15 vibrocores with Map 5 P2's 16 CPT and 17 vibrocore positions and the requested maxima of 20 of each. MARA must also resolve the inconsistency between the June 2026 response excluding a maritime mini boring rig and the August NIS identifying four intertidal tracked-mini-rig probing positions, establishing precisely which operations and machinery are proposed for authorisation. [4,39,51]

(3) Complete operational footprint and habitat interaction. The precise locations and full disturbance footprints of all proposed trial pits, CPTs, vibrocores, boreholes (including BH1) and probing operations, including the proposed 1.5 m × 3 m, up-to-4 m-deep trial pits. A mapped machinery-access and movement plan must identify access routes, plant type and weight, track contact dimensions and ground pressure, anticipated passes, turning/reversing areas, working envelopes and staging locations. These must be overlaid against the completed habitat delineation to establish potential direct or indirect interaction with the documented honeycomb-worm habitat, including adjoining patches. [4,39,51,61,62,65]

(4) Physical disturbance and environmental protection. Whether the proposed operations could cause crushing, tube breakage, fragmentation, removal, edge damage, substrate displacement, sediment disturbance or changes in sediment supply, including effects extending beyond direct machinery contact. Direct or indirect damage to the documented habitat cannot presently be excluded. MARA must assess compliance with Sea-floor and Water Column Integrity Policies 1 and 2, the relevant environmental-liability provisions and Article 6(3) where European-site conservation objectives may be affected. Any avoidance, relocation or mitigation relied upon must be supported by completed habitat and operational-footprint assessment before authorisation. [1,2,3,13,14,20,22,32,33,34,61,62]

(5) Determination and refusal. Whether the evidence available before determination permits MARA to authorise the proposed survey programme consistently with its statutory obligations, including the Article 6(3) requirement to exclude adverse effects on European-site integrity beyond reasonable scientific doubt. On the evidence provided, the submitters request refusal of MUL260006. Any partial grant must expressly exclude operations and areas for which the applicable requirements cannot be satisfied, with the precisely defined remaining programme independently and completely assessed before determination. Post-consent habitat surveys, contractor micro-siting, monitoring or operational conditions cannot substitute for the evidence and assessment necessary to establish the lawfulness of authorisation. [1,2,3,20,22]

Issue 4: Unresolved Environmental Matters Raised in Public Consultation

MARA's MAC260002 assessment report records Uisce Éireann's representations about the Falls Hotel consultation (28th May 2025), the influence of public stakeholder feedback on project planning and further engagement during development and licensing. The report assessed stakeholder engagement as satisfactory.

Table 3 compares the recorded statements with Lexi Keating's subsequent letter and the participants' confirmation of no follow-up conveyed directly to Michael Lynch.[18,19,55]

Lexi Keating, Founder of the West Coast of Ireland Chapter of Surfrider Foundation Europe, attended the public consultation which took place on 28th May 2025. Her letter of 14 September 2026 to Councillor Joe Garrihy records that requests for the exact planned outfall location and tertiary treatment were documented at the meeting. It also records a request that Uisce Eireann work with the local authority on expanded and real-time water-quality monitoring, and states: "This was never addressed & community groups have had to find the resources to do so on their own." The letter identifies further questions requiring responses, including release notifications, independent environmental assessment and studies of winds, swell and currents affecting Liscannor Bay and the Cregg/Moy recreation area.[19]

[redacted] records that, during his participation in a scheduled Surfrider Ireland chapter meeting on 30 September 2026, Lexi Keating and other consultation participants confirmed to him that they had received no subsequent follow-up from Uisce Éireann following the Falls Hotel public consultation meeting. This confirmation of no follow-up is expressly placed before MARA alongside Ms Keating's written evidence of the unaddressed monitoring request.[19,55]

Uisce Eireann statement or MARA assessment	Lexi Keating's letter and subsequent confirmation	Finding required for MUL260006
Uisce Éireann: "Feedback was received" from residents, businesses, environmental groups including Surfrider and marine users. Its summary identifies pollution, site-selection transparency, environmental safeguards and beach-use concerns.[18]	Ms Keating records that the precise outfall location and tertiary-treatment requests were documented during the consultation, together with a request for expanded, real-time water-quality monitoring.[19]	Identify how each material concern was investigated, answered and reflected in the proposed survey, baseline or environmental assessment.
Uisce Éireann said the engagements "have informed project planning" and "will continue throughout the development process".[18]	The letter says the monitoring request was never addressed. Michael Lynch's subsequent account records Ms Keating's and other participants' confirmation that they themselves had received no follow-up from Uisce Éireann after the meeting.[19,55]	Identify the contemporaneous records demonstrating how public stakeholder concerns were considered, investigated and addressed, including the reasons for accepting or rejecting requests and any resulting changes to project planning or environmental assessment.
Uisce Éireann promised "targeted consultations" with affected marine users, using meetings, digital channels and correspondence, plus further engagement during planning and licensing.[18]	Surfrider's letter requests answers on release notifications, independent assessment and wind, swell and current studies. The subsequent participant confirmation records no follow-up after the Falls Hotel meeting.[19,55]	Identify any relevant subsequent contact, its date, recipients, matters addressed and outcomes. Assess the unresolved matters that bear on the current survey usage.

Uisce Eireann statement or MARA assessment	Lexi Keating's letter and subsequent confirmation	Finding required for MUL260006
MARA assessed the engagement criterion as "Satisfactory", accepting its scale and nature on the MAC application record.[18]	The later written and participant evidence places the absence of follow-up and outstanding environmental requests before MARA for this MUL determination.[19,55]	Reconcile that evidence with any reliance on the earlier assessment. The MAC rating cannot establish that these matters were subsequently answered or resolved.

Table 3. Uisce Éireann's recorded engagement statements and MARA's assessment compared with subsequent stakeholder evidence. MAC source: report dated 18 June 2026, section 6.1, Table 2, criterion 10, printed p.17. Letter source: 14 September 2026, paragraph beginning "During the time of the public consultation meeting" and numbered questions 1-4. The later call account is separately attributed to Michael Lynch.[18,19,55]

The comparison table above exposes a material gap between the engagement represented in the MAC record and the follow-up experienced by the meeting participants. Receipt of feedback and attendance at a public meeting do not demonstrate that the recorded environmental requests were answered or that the continuing engagement reached those participants. MARA must identify the evidence supporting any conclusion that their concerns were resolved or incorporated into the programme now being assessed. The participants' confirmation of no follow-up must be expressly addressed in that finding.[18,19,55]

The MAC engagement account and subsequent stakeholder evidence identify environmental matters that remain unresolved for this licence. The submitters rely on that evidence for MUL260006 and do not ask MARA to determine the validity of MAC260002. The connection is direct where concerns bear on the Cregg landfall, reef and coastal habitats, marine and intertidal survey effects, monitoring and the receptor baseline. Treatment-level and future-discharge questions concern the wider development; for this licence, MARA must assess their relevance to the proposed survey usage and the information needed to determine its effects. The earlier satisfactory MAC rating cannot establish that those relevant matters have been resolved.[18,19,55]

Accuracy and reliability of Uisce Éireann's engagement representations

The evidence presented raises serious questions concerning the accuracy and reliability of Uisce Éireann's representations on stakeholder engagement, which MARA considered when assessing MAC260002 as "Satisfactory". Ms Keating's written evidence records that material environmental requests were documented during the May 2025 consultation and expressly states that the request for expanded, real-time water-quality monitoring remained unaddressed more than 15 months later. This is reinforced by the subsequent confirmation from identifiable consultation participants that they received no follow-up from Uisce Éireann.

Notwithstanding these unresolved matters, Uisce Éireann represented to MARA that stakeholder engagement had informed project planning and would continue throughout the development process, including targeted engagement with affected marine users. The submitters expressly challenge the evidential basis for these representations. The submitters request that MARA obtain and consider, insofar as a lawful procedure permits, contemporaneous documentary records substantiating Uisce Éireann's engagement representations, including records of subsequent stakeholder contacts, correspondence, meeting records, responses to environmental requests and evidence showing how consultation feedback was considered, accepted or rejected in project planning and environmental assessment. Where those records are not lawfully obtainable at this stage or are not available, MARA should identify that evidential limitation and explain its implications for the present licence determination.

In the absence of substantiating evidence, MARA cannot reasonably assume that the promised engagement occurred or that the documented environmental concerns were adequately addressed. Any assertion that subsequent engagement occurred, if contradicted by the underlying records, would raise a serious question of materially misleading information having been presented to the regulator. The earlier "Satisfactory" assessment of stakeholder engagement under MAC260002 cannot establish that subsequent commitments were fulfilled or that material environmental requests were investigated and resolved. [18,19,55]

Irrespective of whether further documentary evidence can lawfully be obtained, MARA remains obliged to consider the relevant submissions and satisfy the substantive statutory requirements governing MUL260006. The submitters therefore request that MARA expressly evaluate the discrepancies identified in Table 3, determine whether Uisce Éireann's engagement representations are substantiated by the available evidence, and record reasoned findings on whether the environmental concerns raised by affected marine users were adequately investigated and addressed in the baseline and effects assessments supporting the proposed marine investigations. Where material environmental assessment deficiencies remain unresolved and prevent MARA from reaching the necessary statutory findings, the affected activities cannot lawfully be authorised. Any procedural restriction on obtaining further information does not remove those obligations. [1,2,3,18,19,20,22,55]

The significance of these concerns extends beyond the adequacy of public stakeholder engagement: they raise the question of whether environmental issues identified by affected marine users were adequately investigated and incorporated into the baseline and effects assessments now relied upon to support MUL260006.

Relationship between the proposed marine investigations and project siting assumptions

Mott MacDonald's 2022 Feasibility Study on behalf of Uisce Éireann examined combined wastewater treatment at the existing Ennistymon WWTP site and adjoining lands, including tertiary treatment, technical requirements and whole-life costs.[60]

Subsequently, Mott MacDonald's October 2025 Site Selection Report on behalf of Uisce Éireann assessed both Site L1 (Calluragh South, with sea discharge) and Site E2 (the existing Ennistymon WWTP location, with discharge to the Inagh) as combined-WWTP options. Its broad-site scores were L1 −1 (minus 1) and E2 −2 (minus 2) ranking L1 ahead of E2. However, the report scored the 'Level of Treatment' criterion +1 for L1 and −1 for E2, reflecting different assumed treatment demands (Secondary for Site L1, Tertiary for Site E2). If tertiary treatment is assumed at both locations for the purposes of a like-for-like sensitivity assessment, and the 'Level of Treatment' criterion is scored neutral for both, with all other scores unchanged, the indicative totals become E2 −1 and L1 −2. Under this single-criterion sensitivity assessment, Site E2 (the existing Ennistymon WWTP location) would therefore rank ahead of L1.[59]

This is a transparent submitter sensitivity calculation, not an official re-scoring or proof that Site E2 is consentable.[59,60] The River Inagh's receiving-water constraints remain material and require further technical and environmental assessment. Nevertheless, the sensitivity calculation demonstrates that the preference for Site L1 is influenced by differing treatment assumptions and that Site E2 warrants further consideration under a consistent tertiary-treatment baseline.

The submitters do not ask MARA to determine the preferred WWTP location. Rather, the existence of this alternative reinforces that the proposed Cregg marine outfall must not be regarded as inevitable or environmentally predetermined. MARA must assess the proposed marine investigations on their own merits.[39,59,60]

The environmental concerns raised during the earlier public consultation, together with the unresolved matters identified above, are now expressly before MARA in this statutory consultation. Section 119(5) requires the licence determination to take these submissions into account; section 117(7)(a) requires the Appropriate Assessment to have regard to them. Section 121(2) requires MARA, before granting a licence, to have regard to the NMPF and the State's relevant obligations under the Habitats, Water Framework, Marine Strategy

Framework, Birds and Environmental Impact Assessment Directives. Regulation 42(12)(f) and (g) requires the relevant written submissions and other relevant information to be considered. Regulation 42(18)(a) requires the determination to be made available with reasons.[1,2]

Public Stakeholder engagement findings required before determination

MARA should record reasoned findings on the following matters, supported by identifiable evidence lawfully before it:

(1) Accuracy and completeness of stakeholder engagement. Whether Uisce Éireann's representations that stakeholder feedback informed project planning and that further engagement would occur are substantiated by contemporaneous records. MARA should reconcile the participants' reported absence of follow-up with the MAC engagement record, including documented contacts, dates, matters raised, responses and any resulting changes to project planning. It must determine whether material inaccuracies, omissions or unfulfilled commitments affect the reliability of information supporting MUL260006. [18,19,55]

(2) Treatment of environmental concerns. How the material requests documented by Ms Keating, particularly concerning the proposed outfall location, environmental safeguards and water-quality monitoring, were investigated and addressed, and whether the outcomes are reflected in the current survey programme and environmental assessment. Recording concerns, acknowledging submissions or promising further engagement cannot substitute for substantive consideration of environmental matters relevant to the proposed maritime usage.[19]

(3) Implications for lawful authorisation. Whether unresolved environmental matters or material inaccuracies in the applicant's engagement and assessment records prevent MARA from reaching the findings necessary to authorise the proposed Schedule 7 usage. Where the required findings cannot be reached before determination, MARA must refuse MUL260006 unless the affected activities can be expressly excluded and a precisely defined remaining programme independently satisfies all applicable requirements. Subsequent engagement, investigations or post-consent conditions cannot substitute for the environmental information and assessment required before authorisation.[1,2,3,20,22]

The significance of these deficiencies lies in their implications for the environmental assessment and lawful authorisation of MUL260006, rather than any failure of public stakeholder engagement alone. Section 119(6) provides an opportunity for the applicant to respond where MARA proposes refusal, a partial grant or conditions; it does not diminish the substantive requirements governing the final determination.[1,2]

Overall Conclusion and Required Findings

Taken together, the matters identified in this submission disclose material deficiencies and unresolved factual and scientific issues that prevent a lawful positive determination of MUL260006 on the present record. Some bear directly upon Regulation 42 and Article 6(3); others are substantive licensing matters under the Maritime Area Planning Act 2021, including sections 119 and 121. The submitters accordingly request that MARA refuse MUL260006. A partial or conditional grant should be considered only if, before determination, MARA can identify a precisely defined remaining programme that has itself been completely assessed and shown to satisfy every applicable legal test.[1,2,3,20,22]

The bird evidence in Issue 1 is particularly material. R08Y records all six Cliffs of Moher SCI species and six Mid-Clare Coast SCI bird species, including all five intertidal waders; approximately 102.3 ha of Area A overlaps that recording square and the Cregg landfall lies in R0986. The proposed intertidal works conflict with the offshore/no-intertidal-interaction premises used to screen out those waders. Issue 3 adds GPS-referenced evidence of structured Sabellaria-bearing intertidal habitat within the same Cregg investigation area, with strong photographic observations within approximately 16-33 m of several indicative intrusive survey symbols. The relevant disturbance footprint is wider than those symbols because tracked plant must access, manoeuvre at and leave the intertidal work locations. That strengthens the supporting-habitat, prey-resource and

disturbance pathways that must be assessed against the SPA conservation objectives. Those linked uncertainties cannot be cured by post-consent micro-siting or pre-work checks.4,21,35,42,43,46,56,57,61,62

Issue 1 also establishes repeated local seal use, documented IWDG accounts of local cetacean occurrence and seasonal Basking Shark foraging, recent locally specific otter activity in the Inagh system, the migratory-fish pathway identified by IFI now reinforced by independent evidence that the Inagh supports Atlantic salmon and upstream migration, and a Flapper Skate stranding record whose reported finding coordinate plots within Area A. It additionally identifies Area B as a separate freshwater licence footprint upstream of Ennistymon, with three mapped access points and proposed kick sampling and water-quality sampling; the June response explains the Map 4 P1/P2 area reduction, but the later NIS retains the earlier figure and the area, reach and saltmarsh-screening pathways require reconciliation. The revised NIS does address otters, but its Stage 1 screen requires reconciliation with the July 2024 local evidence, the actual intertidal Cregg works and the Area B freshwater access/sampling pathway. The fish assessment must likewise address Area B rather than treating the MUL as exclusively marine; the Inagh River Estuary SAC saltmarsh exclusions require a reach- and method-specific pathway explanation.

Issue 2 addresses exposure of the Area A receptors to the permitted acoustic survey programme, including the reconciliation of cetacean seasonal use with the revised NIS assumptions; Issue 1 also requires the acknowledged Basking Shark vessel-collision pathway to be assessed against seasonal occurrence and operational controls. Figure 3 illustrates why the 500 m observer watch cannot establish the full acoustic footprint. The assessment must reconcile the June 2026 indicative equipment information with enforceable maximum equipment and operating limits, map receptor-specific exposure, reconcile the boomer/sparker protocol with Irish guidance and justify the 6 km in-combination scope before consent.[2,3,4,5,9,10,21,31,33,38,40,41,53,54,58,63,64]

Issue 3 provides mapped photographic evidence of extensive, locally dense honeycomb-worm tube-built formations across Cregg, close to proposed intrusive investigations. Figure 5B presents four independently verified camera-to-investigation-station distances of 15.5–32.2 m. These are not clearances from the documented honeycomb-worm habitat, whose boundaries remain undefined. The full machinery, access and working footprints are also unknown. Furthermore, the revised NIS specifies maxima of 10 CPTs and 15 vibrocores, whereas Map 5 P2 seeks licence allowances of up to 20 of each. The June response also describes mini-rig probing in the maritime area as unnecessary for this application, whereas the revised NIS includes four intertidal tracked-mini-rig positions. MARA must reconcile both scope differences and establish that the environmental assessment covers the maximum programme and complete machinery-access envelope proposed for authorisation, including the applicability of NMPF Sea-floor and Water Column Integrity Policy 2. Direct habitat disturbance cannot presently be excluded.[13,14,23,30,35,36,51,61,62,65]

Issue 4 places the specific MAC engagement representations beside Ms Keating's letter and certain participants' confirmation, reported directly by Michael Lynch, that they themselves had received no follow-up from UE after the Falls Hotel meeting in May 2025. Table 3 identifies the gap requiring resolution. MARA must address the material environmental requests against the current survey programme and identify the actual follow-up, responses and any resulting project changes supporting any contrary conclusion. The earlier satisfactory MAC assessment cannot establish that those matters were subsequently resolved for MUL260006. For the Appropriate Assessment, Regulation 42(12)(f) and (g) require the relevant submissions and information to be taken into account, and Regulation 42(18)(a) requires the determination to be made available with reasons.[1,2,18,19,55]

Issue 4 also shows why the site-selection record does not make the proposed Cregg outfall inevitable. A like-for-like tertiary-treatment sensitivity reverses the indicative L1/E2 site scoring order. While MARA is not asked to determine the WWTP site, it is asked to assess the proposed marine investigations without assuming that one future infrastructure configuration is predetermined.[39,59,60]

MARA should therefore expressly address the following matters in its determination, recording reasoned findings supported by identifiable evidence before it:

(i) SPA birds and intertidal disturbance. Whether the NBDC records of all six Cliffs of Moher SPA Special Conservation Interest (SCI) species and six Mid-Clare Coast SPA SCI bird species, the finer-grid observations and the Area A/R08Y overlap have been assessed against the actual Cregg intertidal works, seasonal and tidal habitat use, disturbance pathways, ecological connections and applicable SPA conservation objectives. MARA must reconcile the NIS's offshore/no-intertidal-interaction screening premises with the proposed works, assess relevant effects under Article 6(3), and address the separate Birds Directive and Regulation 27 duties applying outside SPA boundaries. It must establish whether effective avoidance or mitigation is achievable and identify any operations or areas requiring exclusion.[1,2,3,4,20,21,22,35,36,37,42,43,46,49,56,57]

(ii) Seals, cetaceans and other protected marine species. Whether the 2025–2026 seal surveys, including documented local haul-out use, the Harbour Seal pup record and the Cregg/Moy shoreline seal footage, have been reconciled with the revised NIS baseline, distinguishing recent local observations from wider historical counts. MARA must also address the IWDG evidence of Bottlenose Dolphins, Common Dolphins, Minke Whales and seasonal Basking Shark occurrence, including the relevant disturbance, exposure and vessel-collision pathways. The locally documented Dead/Stranded Flapper Skate record must be incorporated into the baseline, with appropriate assessment of potential live habitat use, exposure and conservation significance. Each receptor must be considered under its applicable species-protection, NMPF and licensing requirements.[1,4,6,9,16,17,27,31,32,33,40,41,58,66]

(iii) Otters and migratory fish. Whether the July 2024 EirEco evidence of otter activity in the Inagh system has been reconciled with the NIS screening conclusions, including potential disturbance associated with Cregg intertidal works and Area B freshwater access and sampling. MARA must also address the diadromous-fish pathway identified by IFI, including documented Atlantic salmon spawning and upstream migration through the Ennistymon fish pass, together with the relevant freshwater, estuarine and coastal movement pathways. The assessment must distinguish documented local occurrence from unverified site occupancy, address the applicable Annex IV protections and determine any implications for European-site qualifying interests.[2,3,4,10,11,33,63,64]

(iv) Area B freshwater investigations. Whether the final Area B programme has been precisely defined and assessed, reconciling the revised Map 4 P2 area of 6,045.98 m^2 with the earlier 6,430.28 m^2 figure retained in the August NIS. MARA must identify the actual “Cullenagh River”/“Inagh River” reach, Access Points A–C, sampling methods, frequency, access routes and in-channel disturbance footprint. It must also justify the screening exclusion of Inagh River Estuary SAC saltmarsh habitats [1310], [1330] and [1410], addressing any credible downstream-effects pathways from the proposed activities.[4,39,63,64]

(v) Underwater noise and acoustic exposure. Whether the final permitted equipment and operating limits establish a binding worst-case acoustic source envelope, including potential equipment substitutions and simultaneous operations. MARA must assess receptor-specific exposure from the moving survey spread, including cumulative disturbance, masking, hearing effects, particle motion and substrate vibration where relevant. The assessment must reconcile the proposed 500 m monitoring protocol with Irish boomer/sparker guidance, justify the 6 km in-combination assessment scope, and establish whether effective protection of the documented receptors is achievable. Compliance with Underwater Noise Policy 1 and applicable Annex IV strict-protection requirements must be demonstrated before authorisation.[1,2,3,4,5,9,10,29,31,32,33,38,39,40,41,53,54]

(vi) Honeycomb-worm habitat and physical disturbance. Whether the submitters' GPS-referenced photographic evidence, NBDC records and Figures 4–7 have been fully assessed, including the documented honeycomb-worm (*Sabellaria alveolata*) tube-built habitat, its complete occupied extent, structure, condition and potential classification as Annex I habitat 1170 (Reefs). The mapped camera-observation envelope must not be treated as the habitat's complete boundary. MARA must establish whether the final intrusive

investigation locations and all machinery-access, movement, turning, working and staging footprints intersect or could otherwise damage the habitat or adjoining patches, including potential supporting-habitat and prey-resource effects relevant to SPA interests. Direct habitat overlap cannot presently be excluded. Post-consent mapping, contractor micro-siting or monitoring cannot substitute for the assessment required before determination. [1,2,3,4,13,14,20,22,23,30,32,33,34,35,36,42,43,51,61,62]

(vii) Stakeholder engagement and environmental concerns. Whether Uisce Éireann's representations recorded in the MAC assessment have been reconciled with Ms Keating's documented evidence and participants' reported absence of follow-up. MARA must establish how material environmental requests concerning the outfall, safeguards and monitoring were investigated and addressed, whether any resulting changes are reflected in the current programme, and whether unresolved matters or material inaccuracies affect the reliability and adequacy of the environmental assessment supporting MUL260006. [1,2,18,19,55]

Requirements Governing Determination

Completeness of assessment and limitations on conditions

A fundamental issue across these findings is whether the environmental information necessary to authorise the proposed surveys is available before determination. The revised NIS states that the surveys will provide essential baseline information for the Appropriate Assessment process. Such information may properly inform a future wastewater infrastructure proposal, but it cannot substitute for information required now to assess the effects of carrying out the surveys themselves. Conditions, subsequent surveys, pre-work checks or contractor discretion cannot defer essential assessment or remedy uncertainty concerning the effectiveness of mitigation measures relied upon for authorisation.[2,3,4,20,22]

Appropriate Assessment and refusal

Under Article 6(3) of the Habitats Directive and Regulation 42, MARA may authorise activities affecting European-site integrity only where sufficiently complete, precise and definitive scientific findings exclude adverse effects on that integrity beyond reasonable scientific doubt. The unresolved bird and ecological-connection pathways, freshwater and migratory-species issues, acoustic exposure, and documented Cregg habitat and potential works intersection prevent that conclusion on the present record.

The submitters therefore request refusal of MUL260006. Any partial grant must expressly exclude affected activities and areas, with the precisely defined remaining programme independently satisfying the applicable environmental and legal requirements before determination. The anticipated benefits of a future wastewater scheme cannot substitute for these findings. Any proposed reliance on Article 6(4) would require compliance with its separate exceptional derogation procedure, including the absence of alternative solutions, imperative reasons of overriding public interest and the necessary compensatory measures. [1,2,3,20,22,61,62,63,64]

Other statutory licensing requirements

The matters raised also engage MARA's separate obligations under sections 119 and 121 of the Maritime Area Planning Act 2021, the National Marine Planning Framework and applicable species-protection and environmental legislation. These obligations extend to relevant effects within Cregg Beach, Liscannor Bay and the separate Area B freshwater investigation area, including ecological connections beyond European-site boundaries.

Where a material deficiency prevents lawful authorisation, refusal remains the requested outcome. Section 119(6) provides the applicant with procedural fairness where refusal, partial grant or conditional grant is

proposed; it does not diminish the substantive requirements governing MARA's final determination. [1,2,3,20,22,56,57,64]

Request for Reasoned Consideration, Publication and Notification

The submitters request that MARA give substantive consideration to the scientific evidence, mapped observations, assessment deficiencies and statutory compliance issues presented in this submission and summarised in Schedule 1. Under section 117(7)(a) of the Maritime Area Planning Act 2021, MARA must have regard to consultation submissions when carrying out the Appropriate Assessment; under section 119(5), it must take them into account when determining the licence application. The submitters request that the published assessment and determination demonstrate how the material issues were evaluated, including the evidential basis and reasons for any conclusions differing from those advanced in this submission. This is a request for reasoned consideration of material matters, not an individual response to every question.[1,2,3]

The submitters also request written acknowledgment of receipt and direct notification when MARA publishes its determination, together with links to the Appropriate Assessment determination, licensing decision, applicable reasons and judicial-review information. These are practical administrative requests, without asserting an independent statutory entitlement to individual notification. MARA's publication obligations are governed by sections 119 and 122, including section 122(4), concerning publication of the Appropriate Assessment determination, and section 122(5), concerning judicial-review information. [1]

Appendix A Local bird observations

The following dated observations are selected from the NBDC Birds of Ireland record-level export downloaded on 29 September 2026. The table gives each observation's named locality, coordinates, recorded abundance and source RecordKey. All seven entries state 100 m spatial precision. Full source and worksheet locators for the species-summary tables, together with additional local records, are provided in the accompanying NBDC bird evidence schedule.[35,49]

Species and locality	Observation date	Abundance	WGS84 longitude latitude	Source RecordKey and TXT line
Chough Lahinch	13 Nov 2024	3	-9.3465129200 52.9306318500	101327809212863130 Line 262457
Turnstone Lahinch	21 Nov 2024	5	-9.3480992300 52.9295401000	101327809212863144 Line 262607
Ringed Plover Liscannor	23 Oct 2024	77	-9.3758761900 52.9410039000	101327809212863204 Line 263816
Turnstone Liscannor Activity: Feeding	23 Oct 2024	1	-9.3758761900 52.9410039000	101327809212863209 Line 263817
Sanderling Liscannor Activity: Wintering	23 Oct 2024	4	-9.3758761900 52.9410039000	101327809212863211 Line 263818
Dunlin Liscannor Activity: Wintering	23 Oct 2024	5	-9.3758761900 52.9410039000	101327809212863172 Line 265627
Purple Sandpiper Clahane	13 Nov 2024	1	-9.4276374600 52.9362799200	101327809212857234 Line 287621

Coordinates are shown as longitude then latitude. TXT line numbers include the header as line 1. Abundance and activity are transcribed source fields. The complete underlying export is provided in the supplied Evidence Folder.[49]

Appendix B | Cregg Beach photographic survey

Table B1 | Figure 5B distance reconciliation (individual photographs and representative GPS positions)

A–D match the four measurements in Figure 5B. Both distances in each row use the same indicative Uisce Éireann Map 5 P2 station centre; only the camera coordinates differ.

Figure 5B	Original photograph	Survey group	Uisce Eireann station	Individual photo distance (m)	Distance from representative GPS position (m)
A	IMG_6472	P10	BH2 - Borehole	**15.5**	**16.5**
B	IMG_6429	P05	VC1 - Vibrocore	**18.6**	**19.2**
C	IMG_6439	P06	TP1 - Trial pit	**27.8**	**27.8**
D	IMG_6471	P10	CPT1 - Cone penetration test	**32.2**	**32.8**

Explanation of GPS positions and distances

Individual photograph GPS position: The GPS coordinates embedded in one identified original photograph (for example, IMG_6472). Figure 5B and the "Individual photo distance" column in Table B1 use these coordinates; the "Distance from representative GPS position" column uses the group's calculated central coordinates.

Representative GPS position: The calculated central camera location for one of the 24 photographic groups (P01–P24), obtained by taking the median of the stable-core original photographs' latitude values and, separately, the median of their longitude values.

Why the figures differ: Figure 5B measures from named photographs, whereas Table B2 measures from the representative GPS positions of the 24 groups. The small differences reflect variation among the original photograph coordinates, not changes to the Uisce Éireann stations. Table B2 lists only the nearest station to each group: BH2 is closer to P10 (16.5 m) than CPT1 (32.8 m), although Figure 5B shows both relationships.

All calculations use full-precision source coordinates and the same Map 5 P2 station centres. The distances are indicative camera-to-station-centre measurements, not clearances to occupied habitat or the final working/access footprint. Device-reported GPS uncertainty is several metres (Refs 51, 61, 62 and 65).

Table B2 | Complete 24-position photographic register (P01–P12)

11 October 2026 • 24 representative positions • 156 core photographs • 17 strong / 2 moderate / 5 context

Of 174 unique original photographs, 156 stable-core photographs were used to calculate the 24 representative GPS positions. The remaining 18 photographs are retained in the complete GPS audit as supplementary/transition records; they were not used in the representative medians (Ref 61).

Position	Survey zone	Photographic evidence	Core photos	Representative GPS coordinates (WGS84) Latitude / longitude	Median reported GPS uncertainty (m)	Nearest UE Map 5 P2 station	Distance to UE symbol centre (m)
P01	Outer	Context	3	52.92114, -9.35169	4.7	TP1	13.5
P02	Outer	Context	5	52.92109, -9.35192	3.9	BH1	14.0
P03	Outer	Context	4	52.92098, -9.35225	4.7	BH1	21.4
P04	Outer	Moderate	4	52.92123, -9.35247	6.1	VC1	37.2
P05	Outer	Strong	4	52.92107, -9.35283	4.1	VC1	19.2
P06	Inner	Strong	3	52.92143, -9.35172	3.6	TP1	27.8
P07	Inner	Strong	4	52.92142, -9.35223	6.9	TP1	53.3
P08	Inner	Strong	7	52.92133, -9.35257	4.7	VC1	46.1
P09	Inner	Strong	9	52.92130, -9.35289	4.7	BH2	40.1
P10	Inner	Strong	4	52.92119, -9.35341	4.3	BH2	16.5
P11	Outer	Moderate	5	52.92134, -9.35398	3.5	BH2	33.7
P12	Outer	Strong	9	52.92129, -9.35429	4.1	VC2	51.2

Station key: TP = Trial pit | **BH** = Borehole (core drilling) | **VC** = Vibrocore | **CPT** = Cone Penetration Test

Distances are indicative camera-position to applicant symbol-centre measurements; no habitat-edge or final works clearance is implied.

Median reported GPS uncertainty is the median of iPhone-recorded horizontal-positioning error values within each photographic group, not a measured positional error. The applicant station symbols remain indicative; neither the listed positions nor distances delineate occupied habitat or the complete plant-access, turning, staging or excavation footprints (Refs 51, 61, 62 and 65).

Table B2 | Complete 24-position photographic register (continued)

Positions P13-P24 • The same GPS definitions and distance basis apply

Position	Survey zone	Photographic evidence	Core photos	Representative GPS coordinates (WGS84) Latitude / longitude	Median reported GPS uncertainty (m)	Nearest UE Map 5 P2 station	Distance to UE symbol centre (m)
P13	Outer	Strong	5	52.92146, -9.35447	3.5	BH2	68.2
P14	Outer	Strong	3	52.92173, -9.35419	5.7	BH2	65.8
P15	Inner	Strong	4	52.92186, -9.35367	5.6	BH2	60.1
P16	Inner	Strong	6	52.92209, -9.35327	4.7	BH2	85.5
P17	Inner	Strong	14	52.92206, -9.35291	4.7	BH2	90.0
P18	Inner	Strong	8	52.92212, -9.35210	4.7	TP1	108.8
P19	Outer	Context	8	52.92249, -9.35177	3.5	TP1	143.3
P20	Outer	Context	8	52.92275, -9.35199	4.7	TP1	174.9
P21	Outer	Strong	9	52.92277, -9.35257	4.4	BH2	171.3
P22	Outer	Strong	11	52.92270, -9.35342	4.7	BH2	152.6
P23	Outer	Strong	7	52.92269, -9.35368	4.7	BH2	151.9
P24	Outer	Strong	12	52.92270, -9.35411	3.5	BH2	158.6

Station key: TP = Trial pit | **BH** = Borehole (core drilling) | **VC** = Vibrocore | **CPT** = Cone Penetration Test

Method and interpretation

Table B2 GPS coordinates are printed to five decimal places for readability; distances use full-precision source values. The verified Excel audit retains the original photograph records, full-precision median coordinates and positioning-uncertainty ranges (Refs 61 and 65).

OP/IP mean outer/inner survey positions. Strong and moderate ratings describe photographic evidence of characteristic honeycomb-worm tube structures.

Supporting References Documentary ZIP: MUL260006_Supporting Evidence_M&G Lynch_20102026.zip

1. Maritime Area Planning Act 2021, as amended, in particular sections 30(1)-(2), 117(7)(a), 117(9)(b), 119(1)(b), 119(3), 119(5)-(6), 120, 121(2), 122 and Schedule 8. Section 30 requires public bodies to secure NMPF objectives when authorising maritime usage. Sections 117(7)(a) and 119(5) require regard to/taking into account consultation submissions; section 117(9)(b) bars exercise of the section 117(3) additional-information power after commencement of the statutory public-submission period in the respective assessment and licensing decisions; section 119 provides for refusal and partial or conditional grant; section 121(2) identifies the NMPF and the State's relevant environmental obligations; section 122 deals with publication of decisions and AA determinations. Irish Statute Book: https://www.irishstatutebook.ie/eli/2021/act/50/enacted/en/html ; revised section 117: https://revisedacts.lawreform.ie/eli/2021/act/50/section/117/revised/en/html ; revised section 119: https://revisedacts.lawreform.ie/eli/2021/act/50/section/119/revised/en/html ; revised section 30: https://revisedacts.lawreform.ie/eli/2021/act/50/section/30/revised/en/html ; revised section 121: https://revisedacts.lawreform.ie/eli/2021/act/50/section/121/revised/en/html ; revised section 122: https://revisedacts.lawreform.ie/eli/2021/act/50/section/122/revised/en/html
2. European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477/2011), as amended. Regulations 27 (public-authority bird and habitat duties), 42, 43–45 (exceptional Article 6(4) procedure), 51 and 54 (Annex IV protection and derogations). Appropriate Assessment: 42(11), 42(12)(f)–(g), 42(16), 42(17)(a)–(b) and 42(18)(a). Irish Statute Book: https://www.irishstatutebook.ie/eli/2011/si/477 ; NPWS unofficial consolidation updated 5 August 2026, pp.62–64 and 126–132: https://www.npws.ie/sites/default/files/files/EC%20%28Birds%20and%20Natural%20Habitats%29%20Regulations%202011%20%28updated%20to%20August%202026%29.pdf
3. Council Directive 92/43/EEC (Habitats Directive), as amended, Articles 6(3)–(4), 12 and 16 and Annex IV. Article 6(3) supplies the European-site integrity test; Article 6(4) provides a separate exceptional procedure; Articles 12 and 16 address strict species protection and derogations. https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:31992L0043
4. AQUAFACT/APEM for Uisce Éireann (August 2026). Liscannor MUL - Supporting Information for Screening for Appropriate Assessment and Natura Impact Statement - Revised. MUL260006. Key pages include 15-21, 28-33, 40-50 and 62-66. Bird screening and mitigation are addressed particularly at pp.31-33, 40-42 and 64-66. https://www.maritimeregulator.ie/wp-content/uploads/2026/02/MUL260006-Attachment-4.3-SISAA-Updated.pdf
5. Pace, F., Robinson, C., Lumsden, E. and Martin, B. (2026). Underwater Sound Signatures from Geophysics Survey Spread: Case Study from the North Sea Energy Island, Denmark. In The Effects of Noise on Aquatic Life IV. Relevant pp.6–10, Table 1 and Figures 2–4; the approximately 11 km result is an endfire regression extrapolation for the stated 100 dB VHF-weighted 125 ms SPL benchmark. https://link.springer.com/rwe/10.1007/978-3-031-94229-7_108-1
6. AQUAFACT for Uisce Éireann (January 2026). Surveys to inform construction of a WWTP outflow pipe at Liscannor Bay - Lahinch & Ennistymon: Risk Assessment for Annex IV Species. Key pages 19, 31-32, 38-39.
7. NPWS Local Biodiversity Action Fund - Liscannor Bay project description: regular Grey and Harbour Seal haul-outs at Mutton Island / Barr Trá and known pupping site. https://www.npws.ie/legislation/national-biodiversity-action-plan/local-biodiversity-action-fund
8. National Biodiversity Data Centre. Liscannor Bay Seal Surveys 2025 - six surveys from June to September 2025; UAV video/images over known or suspected haul-out sites, supplemented by binocular observations at sites including Barr Trá and Coolrone; 116 records across two species. https://maps.biodiversityireland.ie/Dataset/441/Survey/1820
9. Irish Whale and Dolphin Group (7 June 2025). Building a Marine Strategic Alliance in County Clare. Local marine-mammal and Basking Shark occurrence in Liscannor Bay; Bottlenose Dolphins described as frequently recorded, Common Dolphins and Minke Whales during summer, Basking Sharks foraging in spring and courtship aggregations west of the bay. https://iwdg.ie/building-a-marine-strategic-alliance-in-county-clare/
10. Inland Fisheries Ireland, Ciara O'Leary and Nicola O'Gorman (26 March 2026). Public-body consultation response for MUL260006, pp.1–2. Identifies Atlantic salmon, sea lamprey, river lamprey and European eel and the absence of AA screening for relevant diadromous fish. https://www.maritimeregulator.ie/wp-content/uploads/2026/02/MUL260006-Inland-Fisheries-Ireland.pdf
11. Commission v Germany (Moorburg), C-142/16, judgment of 26 April 2017, particularly paragraphs 37 and 42 (effectiveness of mitigation and scientific certainty at authorisation). https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:62016CJ0142
12. National Biodiversity Data Centre species-list export supplied 24 September 2026, file "full NBDC report callura down to Cregg.xlsx". The General worksheet identifies Species list R08 (10 km). The separately supplied R08 report contains equivalent bird-summary rows.
13. Firth, L.B. et al. (2021). On the diversity and distribution of a data deficient habitat in a poorly mapped region: the case of Sabellaria alveolata L. in Ireland. Marine Environmental Research 169:105344. DOI 10.1016/j.marenvres.2021.105344. Accepted manuscript: physical fragmentation/trampling, PDF pp. 14 and 17 (lines 332–341 and 412–428); species-specific SACFOR scale, Table 1, PDF p. 37 (repeated on p. 76). Documentary ZIP: 02_Ecology_and_Scientific_Evidence/Ref13_Firth_et_al_2021_Sabellaria_alveolata.pdf. https://researchportal.plymouth.ac.uk/files/48441097/Firth_et_al_MERE_accepted_pre-proof.pdf
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18. MARA (18 June 2026). MAC260002 MAC assessment report, section 6.1, Table 2, Schedule 5 criterion 10, printed p.17: UE's stakeholder-engagement representations and MARA's assessment. Compared in Table 3 of this submission. https://www.maritimeregulator.ie/wp-content/uploads/2026/02/MAC-Report_MAC260002.pdf . Application and determination record: https://www.maritimeregulator.ie/application/mac260002/
19. Keating, Lexi, Founder of the West Coast of Ireland Chapter of Surfrider Foundation Europe (14 September 2026). Letter to Councillor Joe Garrihy. Relevant passage begins "During the time of the public consultation meeting" and records the outfall-location, tertiary-treatment and monitoring requests; the following numbered questions 1–4 address further concerns. Documentary ZIP: 04_Consultation_Records/Ref19_Lexi_Keating_Letter_to_Cllr_Joe_Garrihy_14Sep2026.docx. Compared in Table 3.
20. Holohan and Others, C-461/17, Judgment of 7 November 2018, in particular paragraphs 33-40 (effects on protected interests, including outside-site habitats) and 49-52 (complete findings and scientific doubt). https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:62017CJ0461
21. MARA. MUL260006 application page and document register: https://www.maritimeregulator.ie/application/mul260006/ . Area A source: Uisce Éireann / Mott MacDonald, Map 1 - Area A Overview Map, drawing 10020408-MMD-XX-XX-DG-Z-0202, revision P1, 30 October 2025; printed area 287.4 ha. Figure 2 overlays the reconstructed Area A boundary with R08Y; calculated overlap approximately 102.3 ha (35.6% of Area A), in R0886 and R0986. Figure 3 uses the same licence geometry for the acoustic distance comparison. Figure 4 reuses the verified Area A/recording-grid geometry and identifies the 11 October 2026 Cregg field-survey locality; Figure 5 uses the applicant's Map 5 investigation drawing as its works-location base.
22. Sweetman and Others, C-258/11, Judgment of 11 April 2013, paragraphs 40-44, particularly paragraph 41: authorisation must be refused where uncertainty remains about the absence of adverse effects on site integrity. https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:62011CJ0258
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30. Lynch, Michael (11 October 2026). Original Cregg Beach photographs illustrating characteristic honeycomb-worm tube morphology, patch distribution and intertidal context in Figures 6A–6D. The original HEIC files and photographic index are supplied in the separate MUL260006_Cregg_Original GPS Photographs_M&G Lynch_20102026.zip; GPS provenance and verification are addressed at Refs 61 and 65.
31. National Biodiversity Data Centre, Explore Your Shore dataset (Dataset 305), record-level export downloaded 29 September 2026. ExploreYourShore.txt line 15783, RecordKey 99145984667296272: Lahinch, 5 December 2020, Type of sighting Dead/Stranded, source TaxonName Dipturus intermedia, recorder Liam McNamara; abundance blank. WGS84 longitude -9.36540692, latitude 52.91552037, precision 100 m. Reported finding coordinate approximately ITM E508170, N685838, plotted in Figure 3. Original export enclosed in the documentary ZIP at 02_Ecology_and_Scientific_Evidence/Ref31_NBDC_ExploreYourShore_Original_Export.zip; the submission uses the accepted species name D. intermedius.
32. AQUAFACT for Uisce Éireann. Attachment 4.1 - Consistency of the proposed Maritime Usage with the objectives of the National Marine Planning Framework (NMPF), MUL260006. Table 4.1.1, printed pp.3, 5 and 6. In particular, Biodiversity Policy 2 is assessed as "Compliant", Biodiversity Policy 3 as "N/A", and Sea-floor Integrity Policies 1 and 2 as "N/A" (Policy 2 cross-referred to Policy 1). Biodiversity Policy 4 and Underwater Noise Policy 1 also bear on the receptor and noise assessments; the latter is labelled Compliant on the basis of MMOs, PAM and soft start preventing population-level effects. MARA application record: https://www.maritimeregulator.ie/wp-content/uploads/2026/02/Attachment-4.1-Consistency-with-NMPF.pdf
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35. National Biodiversity Data Centre, 2 km Cregg/Lahinch coastal tetrad report R08Y, generated 29 September 2026: Honeycomb Worm 10 records (latest 21 June 2025); Sanderling 5 (2 September 2024); Purple Sandpiper 2 (2 January 2020); Turnstone 24 (21 November 2024). Source file: "R08Y - Biodiversity Ireland - 2026-09-29T11.11.23.631 - 2K.xlsx", supplied with the evidence package. All six Cliffs of Moher and six Mid-Clare Coast bird-interest rows are reproduced in Tables 1 and 2 with worksheet row locators; the accompanying MUL260006_NBDC_Bird_Evidence.xlsx provides the detailed provenance. Honeycomb Worm source: Species Result row 16, Explore Your Shore dataset; occurrence-report geography shown in Figure 4.

36. National Biodiversity Data Centre, 1 km spatial reports R0885, R0886 and R0986, generated 29 September 2026. R0885: Honeycomb Worm 1 record, 5 December 2020, Species Result row 3. R0986: Honeycomb Worm 3 records, latest 30 March 2022, Species Result row 7, and Turnstone 5 records, latest 22 October 2022. Honeycomb Worm rows name the Explore Your Shore dataset. R0986 lies within R08Y and contains the mapped Cregg landfall. R0886: Sanderling, Purple Sandpiper and Turnstone 1 record each (displayed last-record field 31 December 2001, I-WeBS 1994-2001). Original source workbooks are supplied in the evidence package; recording cells are shown in Figure 4.
37. National Biodiversity Data Centre, additional Mid-Clare Coast SPA SCI records in the same spatial reports generated 29 September 2026. 2 km R08Y: Ringed Plover 17 records (latest 4 September 2024) and Dunlin 6 records (latest 2 September 2024). 1 km R0886: Ringed Plover and Dunlin 1 record each (I-WeBS report last-record field 31 December 2001). 1 km R0986: Ringed Plover 2 records (latest 11 April 2021). Source files supplied with the evidence package.
38. MARA (August 2026). MUL260006 Appropriate Assessment Screening and Determination Report. In particular, pages 3-4 and 18-21: the applicant had not specified the proposed MBES make, model or operating frequency; physical disturbance and habitat modification screening; the 6 km in-combination assessment scope; and the determination that likely significant in-combination effects, underwater-noise effects on marine mammals and disturbance to diving birds required Stage 2 Appropriate Assessment.
39. Uisce Éireann. MUL260006 Maritime Usage Licence General Application (Form MUL1), recorded by MARA as received 20 February 2026, particularly pp.10–14 (methods, site investigations and licence duration). Also Mott MacDonald for Uisce Éireann (26 June 2026), Response to MARA Request for Additional Information, Responses 1, 2 and 4, pp.2–3 and 7 (High-Water-Mark adjustment of Area B, indicative R2Sonic 2022 400 kHz MBES and AA201 Boomer Cat equipment with contractor alternatives, survey quantities, and the statement concerning maritime mini-rig probing). MARA application register: https://www.maritimeregulator.ie/application/mul260006/ ; June 2026 RFAI response: https://www.maritimeregulator.ie/wp-content/uploads/2026/02/MARA_RFAI_-_Response_Letter_-_MUL260006_-_20260626.pdf .
40. Berrow, Simon (24 October 2025). UAV Seal Survey of Liscannor Bay and Mutton Island. LBAF / Liscannor Bay seal survey report, including 2025 site-level counts, age/pup notes and historical seal records.
41. Berrow, Simon (27 July 2026). UAV Seal Survey of Liscannor Bay and Mutton Island_2026. Follow-up LBAF survey report, including January-April 2026 counts and disturbance observations.
42. NPWS (2025). Conservation Objectives: Cliffs of Moher SPA 004005. Version 1, 30 May 2025. Species objectives, foraging, connectivity and disturbance attributes, printed pp.8-20. https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO004005.pdf
43. NPWS (2014). Conservation Objectives: Mid-Clare Coast SPA 004182. Version 1, 8 September 2014. Cormorant, wader and wetland objectives, printed pp.7-13. https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO004182.pdf
44. NPWS (2015). Site Synopsis: Cliffs of Moher SPA 004005. 18 May 2015. SPA interests, breeding-seabird assemblage and historical national importance. https://www.npws.ie/sites/default/files/protected-sites/synopsis/SY004005.pdf
45. NPWS (2015). Site Synopsis: Mid-Clare Coast SPA 004182. 20 January 2015. SCI list and international/national importance based on historical SPA counts. https://www.npws.ie/sites/default/files/protected-sites/synopsis/SY004182.pdf
46. NPWS (2014). Mid-Clare Coast SPA 004182 Conservation Objectives Supporting Document. Version 1, July 2014. Outside-site ecological connections, printed pp.7 and 16-17; tide-state distribution methods, pp.19-22; disturbance implications, p.39. https://www.npws.ie/sites/default/files/publications/pdf/Mid-Clare%20Coast%20SPA%20(004182)%20Conservation%20objectives%20supporting%20document%20-%20%5BVersion%201%5D.pdf
47. Vulcano, A. et al. (2024). Seabirds of Europe: current status, main threats and way forward. BirdLife Europe and Central Asia Summary Report, July 2024. Regional classifications and global context, printed pp.20-25, based on the stated 2020, 2021 and 2023 assessments. https://www.birdlife.org/wp-content/uploads/2024/07/Seabird_Report-2024-July_-Final-Digital-Spreads-compressed.pdf
48. BTO, BirdWatch Ireland and Scottish Ornithologists' Club. Bird Atlas 2007-11: Introduction and how to help, pp.1-2. DINTY 2 km tetrad grid convention used to identify R08Y's constituent 1 km squares. https://www.bto.org/sites/default/files/u36/downloads/how_to_help.pdf
49. National Biodiversity Data Centre, Birds of Ireland record-level export downloaded 29 September 2026: BirdsOfIreland-435.zip, entry BirdsOfIreland.txt. Selected dated Lahinch/Liscannor/Clahane observations and exact RecordKeys are reproduced in Appendix A and in the enclosed selected-observations workbook. Documentary ZIP: 02_Ecology_and_Scientific_Evidence/Ref49_NBDC_BirdsOfIreland_Record_Export.zip and Ref49_NBDC_Bird_Evidence_Selected_Observations.xlsx (same folder).
50. NPWS (2026). SPA_ITM_2026_02 designated-site boundary dataset, published 3 March 2026; site geometries for Cliffs of Moher SPA 004005 (version 2.01) and Mid-Clare Coast SPA 004182 (version 2.0). Boundaries used in Figure 1. https://www.npws.ie/maps-and-data/designated-site-data/download-boundary-data
51. Uisce Éireann / Mott MacDonald (2 July 2026). MUL260006 Map 5 – Marine Investigations, drawing 10020408-MMD-XX-XX-DG-Z-0208_P2. Current baseline for the 52 indicative nearshore investigation stations shown in Figures 5A and 5B. The drawing notes that intrusive positions and survey limits remain subject to finalisation, and that the construction approach and diffuser location remain to be determined. Documentary ZIP: 01_Applicant_and_MARA_Records/Ref51_Map5_Marine_Investigations_P2_GeoPDF.pdf.
52. OpenStreetMap contributors. Coastline and place features retrieved 1 October 2026 for the basemaps in Figures 1–4. Map projection: Irish Transverse Mercator, EPSG 2157; R08Y constructed in Irish Grid EPSG 29903 and transformed to ITM using the Bird Atlas convention at reference 48. https://www.openstreetmap.org/copyright
53. Department of Arts, Heritage and the Gaeltacht / NPWS (January 2014). Guidance to Manage the Risk to Marine Mammals from Man-made Sound Sources in Irish Waters. Printed pp.16–20 and 25–27, especially section 4.3.4(i), seismic surveys including boomers/sparkers, and section 4.3.4(ii), sonar/pinger/chirp equipment. https://www.npws.ie/sites/default/files/files/underwater-sound-guidance-jan-2014.pdf
54. Popper, A.N. and Hawkins, A.D. (2019). An overview of fish bioacoustics and the impacts of anthropogenic sounds on fishes. Journal of Fish Biology 94:692–713, especially sections 5.2 and 8.1.1 on particle motion, boundaries and near-substrate exposure. https://doi.org/10.1111/jfb.13948

55. Lynch, Michael, one of the submitters. Account provided on 1 October 2026 of a scheduled Surfrider Ireland chapter meeting on 30th September 2026. He spoke directly with Lexi Keating; she and other participants who spoke with Mr. Lynch reported that they themselves had received no subsequent follow-up from Uisce Éireann after the Falls Hotel public consultation meeting on 28 May 2025. This is Mr. Lynch's account of the participants' confirmation, recorded for this submission and compared in Table 3. Signed statement: documentary ZIP, 04_Consultation_Records/Ref55_Michael_Lynch_Statement_30Sep2026.pdf.
56. Directive 2009/147/EC (Birds Directive), as amended, Articles 1, 3(2)(b), 4(4), 5 and 9: bird and habitat protection inside and outside SPAs; significant deliberate disturbance and derogations. https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:02009L0147-20190626
57. VIRUS and Others, C-131/24, judgment of 26 February 2026, ECLI:EU:C:2026:109, paragraphs 38–47 and 54–58: deliberate disturbance, conservation significance, preventive measures and diligent, reasoned assessment based on reliable scientific data. https://juris.curia.europa.eu/juris/document/document.jsf?docid=309501&doclang=EN
58. Wildlife Act 1976, as amended, section 23 and Fifth Schedule: protections for Grey and Harbour Seals, including injury and wilful interference with or destruction of breeding or resting places, subject to statutory exceptions. The Wildlife Act 1976 (Protection of Wild Animals) Regulations 2022, S.I. No. 485/2022 (effective 3 October 2022), apply section 23 to the Basking Shark (Cetorhinus maximus). Revised section 23: https://revisedacts.lawreform.ie/eli/1976/act/39/section/23/revised/en/html ; S.I. No. 485/2022: https://www.irishstatutebook.ie/eli/2022/si/485/made/en/print
59. Mott MacDonald for Uisce Éireann (October 2025). Ennistymon & Lahinch WWTPs – Site Selection Report, document 10020408-MMD-XX-XX-RP-Z-0004. Relevant material: section 6.4.4 (E2 combined option and Inagh discharge), Tables 6.39–6.40 (combined-site comparison: E2/Inagh −2 and L1/sea −1), and the Level of Treatment criterion (E2 −1; L1 +1). These published scores are the inputs to the submitters' single-criterion, tertiary-for-both sensitivity calculation; that calculation is not an official alternative-site assessment and does not resolve Inagh receiving-water constraints.
60. Mott MacDonald for Uisce Éireann (28 June 2022). Ennistymon & Lahinch WwTP - Feasibility Study Report, document 229379719-MMD-EN-00-RP-C-1050. Relevant material: sections 5.2 and 5.4-5.5 and section 8; Table 44 (assessment scoring), Table 47 (combined-site assessment), Table 76 (whole-life cost comparison), and the assessment of combined treatment at Ennistymon, Lahinch and Liscannor as alternative project configurations.
61. Lynch / submitters (11 October 2026; audit 12–15 October). Original Cregg field survey comprising 174 GPS-tagged iPhone 15 HEIC photographs and 24 Compass screenshots (153 distinct coordinate pairs). An indexed set of 24 representative camera positions supports the photographic assessment: strong evidence of characteristic honeycomb-worm tube structures at 17, moderate at two and non-diagnostic surroundings at five. The approximate 3.1 ha camera-observation envelope is not occupied habitat area. Documentary ZIP: 03_Cregg_GPS_and_Spatial_Evidence/Ref61_62_65_Cregg_GPS_Data_Public.xlsx. The 174 HEIC originals, 24 Compass PNGs and photographic index are supplied separately in MUL260006_Cregg_Original GPS Photographs_M&G Lynch_20102026.zip (Refs 30 and 61).
62. Submitters (14 October 2026). Map 5 P2 geospatial proximity analysis pairing the Ref61 camera coordinates with the applicant's 52 indicative investigation stations (Ref51). Figures 5A–5B illustrate the spatial relationship, including the four individual camera-to-station distances of approximately 15.5 m, 18.6 m, 27.8 m and 32.2 m. These are not surveyed habitat-edge or plant-access clearances. Documentary ZIP: 03_Cregg_GPS_and_Spatial_Evidence/Ref61_62_65_Cregg_GPS_Data_Public.xlsx (24 camera positions, UE station coordinates and Figure 5B distances). Figures 5A and 5B appear in this submission; source-data verification: Ref65.
63. EirEco Environmental Consultants for Clare County Council (19 July 2024). Appropriate Assessment Screening Report for Ennistymon Hub Derelict Building Refurbishment, Doc. Ref. 2331/2, Rev01. Relevant material: printed pp.4-6 and Appendix 1, including source-pathway-receptor / upstream-downstream catchment screening context, the extent of the Inagh River Estuary SAC to the estuary mouth and Lahinch Strand intertidal zone, wintering wildfowl and waders, Atlantic salmon and the Ennistymon fish pass, and documented otter activity along the Inagh River through Ennistymon. This report concerns the Ennistymon Hub project, not MUL260006; it is relied upon here as locally specific ecological evidence requiring reconciliation with the MUL receptor baseline, not as proof of Cregg occupancy or adverse effect. Documentary ZIP: 02_Ecology_and_Scientific_Evidence/Ref63_EirEco_Ennistymon_Hub_AA_Screening_Jul2024.pdf.
64. Uisce Éireann / Mott MacDonald (26 June 2026). MUL260006 Map 4 - Access Point Map Area B, drawing 10020408-MMD-XX-XX-DG-Z-0207_P2. The map identifies Area B as 6,045.98 m^2 and shows Access Points A, B and C. It labels the mapped watercourse “Cullenagh River”. The preceding Map 4 P1, drawing 10020408-MMD-XX-XX-DG-Z-0207 (30 October 2025), states 6,430.28 m^2; the August 2026 updated SISAA/NIS (Ref4) retains that larger figure in its introductory description, calls the location the “Cullenagh River” there, and later describes kick sampling and water-quality sampling “within the Inagh River” upstream of the Falls Hotel. The map is relied upon to define the additional freshwater licence footprint and access envelope and to require reconciliation of the assessed and proposed-authorisation boundaries and the exact watercourse/reach; the discrepancies do not of themselves establish ecological harm. Documentary ZIP: 01_Applicant_and_MARA_Records/Ref64_Map4_AreaB_Access_P2_26Jun2026.pdf (P2) and Ref64_Additional_Map2_AreaB_Overview_P1_30Oct2025.pdf (2025 Map 2, same folder). The distinct 2025 Map 4 P1 is publicly linked below but not enclosed. Public source maps: P1 https://www.maritimeregulator.ie/wp-content/uploads/2026/02/MUL260006-Map-4-Access-Point-Map-Area-B.pdf ; P2 https://www.maritimeregulator.ie/wp-content/uploads/2026/02/10020408-MMD-XXX-XX-DG-Z-0207_P2.pdf ; updated SISAA/NIS https://www.maritimeregulator.ie/wp-content/uploads/2026/02/MUL260006-Attachment-4.3-SISAA-Updated.pdf .
65. Lynch / submitters (14 October 2026). Cregg GPS and Map 5 P2 Spatial Verification (source-data technical note), source-file and calculation audit supporting Figures 5A–5B. Re-examined 174 original HEIC GPS records, 24 Compass screenshots and 52 applicant symbols; confirmed four reported camera-to-symbol distances independently using Irish Transverse Mercator and WGS84 geodesic calculations. Handset positioning uncertainty, rounded Compass coordinates and the applicant's indicative station locations limit conclusions about precise ground clearance. This is not a certified habitat or land survey. Documentary ZIP: 03_Cregg_GPS_and_Spatial_Evidence/Ref65_Independent_Spatial_Verification_Methods_and_Results.pdf, supported by the source tables in Ref61_62_65_Cregg_GPS_Data_Public.xlsx (same folder).
66. Instagram reel (ID DethrO8tsIs), https://www.instagram.com/reel/DethrO8tsIs/; 70-second MP4 copy supplied by the submitters, containing identifiable seal-on-rock footage at approximately 00:40–00:42 and 00:54–00:57 with Moy House visible in the same frames. The edited reel displays the account handle @KEVLSMITH, without independent confirmation of original filming authorship. Landmark comparison: Colm Linnane, "Cragg Beach, view of Moy House," Geograph image

7105871 (16 January 2022), https://www.geograph.ie/photo/7105871. Evidence establishes an apparent local haul-out observation, not a verified recording date, species, recurrent haul-out use, breeding site or surveyed coordinates. The MP4 copy, unchanged from the submitter-supplied file, is enclosed in 02_Ecology_and_Scientific_Evidence/Ref66_Cregg_Seal_Video_As_Supplied.MP4. Public exhibit: 02_Ecology_and_Scientific_Evidence/Ref66_Cregg_Seal_Video_Verified_Frames.pdf (frames from the MP4); original submitter screenshot also retained in the evidence archive.