

Memorandum of Understanding

between the

**National Parks and Wildlife Service of the Department
of Housing, Local Government and Heritage**

and the

Marine Institute

for the

**Freshwater Pearl Mussel *Margaritifera margaritifera*
captive breeding programme at the Marine Institute's
research station in the Burrishoole catchment, Co.
Mayo.**

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1. Objective of Memorandum of Understanding

- 1.1. The objective of this Memorandum of Understanding (MoU) is to formalise a collaborative undertaking between the National Parks and Wildlife Service of the Department of Housing, Local Government and Heritage and the Marine Institute to operate a Freshwater Pearl Mussel (*Margaritifera margaritifera*) captive breeding programme, at the Marine Institute's research station in the Burrishoole catchment, Furnace, Newport, Co. Mayo.

2. Scope of MoU

- 2.1. This MoU is made between the National Parks and Wildlife Service (Executive Agency of the Department of Housing, Local Government and Heritage) and the Marine Institute (Executive Agency under the aegis of the Department of Agriculture, Food and the Marine) (known collectively in the MoU as the Parties).
- 2.2. The MoU defines the relationships between the Parties in respect of a programme to operate a captive breeding programme for Freshwater Pearl Mussel (FPM) at the Marine Institute's research station in the Burrishoole catchment, Furnace, Newport, Co. Mayo.
- 2.3. The Freshwater Pearl Mussel is protected under the Wildlife Act and listed on Annex II and V of the EU Habitats Directive. It is on the verge of extinction, in unfavourable bad conservation status and categorised as critically endangered in Ireland, and one of the 365 most endangered species in the world.
- 2.4. The National Conservation Strategy for the Freshwater Pearl Mussel (NPWS, 2011) recognises the importance of captive breeding projects for ensuring the short- to medium-term survival of populations in severe decline. Evidence of rapid population declines since 2010, particularly in the east and south of Ireland, but also from the large populations in the west of Ireland, has increased the importance of captive breeding as a conservation measure for the species.
- 2.5. A pilot programme was first established in 2020. The first phase focused on establishing the feasibility of rearing and breeding freshwater pearl mussels at the Marine Institute's hatchery using hatchery reared juvenile (0+) salmon and adult mussels from the Newport River. This successfully produced the first cohort of captive bred FPM in the Furnace hatchery. The second phase (2022-2024) focused on assessing the ongoing rearing of juvenile mussels, the comparison of salmon and trout as host fish and the continued development of the protocol.
- 2.6. This MoU covers the continuing development of the captive breeding programme up to the 30th September 2027. Authorisation for the programme pursuant to Part 5 of the European Union (Protection of Animals Used for Scientific Purposes) Regulations 2012 (S.I. No. 543 of 2012) was received from HPRA (Health Products Regulatory Authority) for the period 01 July 2022 until 30 June 2024 (AE19121/P005, Case No: 7030984) and this authorisation has now been extended, amended and approved (AE19121/P005, Case No: 7032159) for the period 19 March 2024 until 30 June 2027.
- 2.7. Before September 2026, parties will discuss the expansion and continuation of the programme into a long term arrangement, commensurate with success of the breeding

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programme, the life span of mussels and the time it takes any hatchery bred mussels to grow to the age of reintroduction to the wild.

- 2.8. This MoU may not be amended without the agreement of the Parties hereto.
- 2.9. This MoU does not affect the statutory responsibilities of, or between, the National Parks and Wildlife Service and the Marine Institute. The programme actions are carried out in accordance with the functions of the Marine Institute under the Marine Institute Act.

3. Programme actions

- 3.1. The scope and primary scientific objectives of the phase to September 2027 are to:
 - Determine how best to keep adult FPMs alive, healthy and reproducing in the Furnace hatchery.
 - Determine how repeated annual glochidiosis on salmonids can be induced successfully.
 - Determine how to maintain juvenile FPMs in the hatchery environment.
 - Compare the success of glochidiosis on salmon and trout.
 - Upgrade existing infrastructure to be capable of holding adult mussels from multiple rivers and so produce annual cohorts from up to 5 populations in 2025 and up to 10 populations from 2026 onwards.
 - Upgrade existing infrastructure to rear juvenile mussels, comprising aquaria and/or flow through flumes.
 - Produce a Standard Operating Procedure (SOP) for the production and maintenance of FPM in the Furnace hatchery, whilst maintaining acceptable fish health and minimising the risks in relation to fish and pearl mussel disease and non-native species transfers, as approved by the MI Animal Welfare Board.
- 3.2. The Marine Institute will procure external specialist Freshwater Pearl Mussel services in line with public service procurement policies as and when necessary to the programme's operation.
- 3.3. Subject to DPENDR approval, the Marine Institute will recruit a Lab Analyst for up to 36 months whose role will include:
 - Responsibility for implementing the actions outlined in section 3.1 in conjunction with the wider MI and NPWS team.
 - Collection and documentation of fish health records.
 - Collection and documentation of FPM health records.
 - Collection and documentation of all water quality records from the FPM programme area of Furnace hatchery.
 - Assisting the Marine Institute staff with the production of host fish.
 - Drafting of interim and final reports, including end of year statistical returns for HPRA.
 - Supporting NPWS in the collection of FPM adults and the repatriation of mussels to their native rivers.

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- Engaging with the wider captive breeding team and relevant stakeholders.
- Engaging with NPWS staff on wider FPM captive breeding and associated conservation actions as required.
- Outreach as required.

- 3.4. The programme will be overseen by a steering committee comprising the key Marine Institute and National Parks and Wildlife Service staff, and external Freshwater Pearl Mussel specialists.
- 3.5. Fish health and feeding will be managed by the Marine Institute, as well as installation and maintenance of the necessary infrastructure.
- 3.6. The Marine Institute will also conduct regular monitoring of fish, mussels and water quality.
- 3.7. The National Parks and Wildlife Service will provide pearl mussel training to the lab analyst on the recognition of healthy mussel populations and their reproductive status.
- 3.8. The Marine Institute will provide an interim report on progress in July 2025, July 2026 and a final report by September 2027.
- 3.9. The National Parks and Wildlife Service will provide licences, under the Wildlife Acts, as necessary, as well as financial and scientific support towards the pilot programme.

4. Costs

- 4.1. The National Parks and Wildlife Service will provide up to €255,000 in grant funding towards the programme during the lifetime of this MoU, on an annual prefunding basis as described in the Grant - Letter of Offer, NPWS Ref: SPU G13-2024.
- 4.2. The Marine Institute will contribute resources, support and facilities towards the achievement of the objectives of this pilot programme during the lifetime of this MoU. The grant funds must be used exclusively for the approved project or activity.
- 4.3. Where not agreed with the Grant provider(s) to carry over unspent funds, any unspent funds must be returned to the grant provider(s) at the end of the MoU period (30th Sep 2027).
- 4.4. The recipient shall maintain accurate financial records related to grant expenditures.
- 4.5. The recipient must acknowledge in writing, prior to payment, that they understand their obligations including ensuring value for money as outlined in the Public Spending Code and [Circular 13/2014](#).

5. Monitoring and Review of MoU

- 5.1. This MoU will come into effect on the date of signing and will remain in effect until 30th September 2027.
- 5.2. Richard O'Callaghan, National Parks and Wildlife Service, and Dr Elvira de Eyto, Marine Institute, (or their replacements) are the designated contacts for implementation of the MoU

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and they will meet jointly on at least a quarterly basis to monitor the operation and implementation of this MoU.

- 5.3. A review of the operation of the MoU will be completed no later than one year prior to its expiry, at which stage proposals for an MoU or equivalent for subsequent years may be made where necessary.
- 5.4. This MoU may be subject to change or revision, with recommendations for change made to, and agreed in writing by, the respective signatories.
- 5.5. The parties agree that this MoU and any arrangements anticipated by it may be terminated by one party giving the other party 3 months' notice in writing or by giving immediate notice in writing where the party giving the notice considers, acting reasonably, that any action or omission of the other party adversely affects the good reputation of the party giving such notice.

6. Confidentiality

- 6.1. Both parties shall maintain full right title and interest in any intellectual property right in any work product developed solely by them under this memorandum.
- 6.2. The rights of the two organisations to restrict information regarded as confidential under each organisation's relevant legislation will be respected at all times.

7. Signatures

Signed:



Patricia Orme

Director of Corporate Services

Marine Institute

Date: 02/07/2024

Signed:



Andy Bleasdale

Chief Scientific Advisor on Nature and
Biodiversity (Director)
Scientific Advice and Research Directorate

National Parks and Wildlife Service,
Executive Agency of the Department of
Housing, Local Government and Heritage

Date: 02/07/2024