
ANNEX M

Freshwater Pearl Mussel Survey Report

Confidential

CURRAGHINALT GOLD PROJECT, COUNTY TYRONE, NORTHERN IRELAND

Freshwater Pearl Mussel Survey Report
Prepared for: Dalradian Gold Limited

CONFIDENTIAL

DALRADIAN
GOLD

SLR Ref: 501.00241.00006
Version No: 1.1
September 2017

SLR 

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EXECUTIVE SUMMARY

This report has been prepared by SLR Consulting Ireland on behalf of Dalradian Gold Limited. It presents the results of a freshwater pearl mussel survey carried out by Aquatic & Terrestrial Environmental Consultants to inform the baseline ecological conditions at the site of the proposed gold mine development as part of the Curraghinalt Project, County Tyrone.

[REDACTED]

[REDACTED]

Based on the size of populations recorded [REDACTED] that are of national significance and of an internationally important species it is considered that the freshwater pearl mussel populations in both these rivers are evaluated as being of International value.

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1.0 INTRODUCTION

1.1 Background

This report presents the findings of the freshwater pearl mussel surveys commissioned out to Aquatic & Terrestrial Environmental Consultants (ATEC) and carried out in 2012 and 2015 to inform the baseline ecological conditions at the site of the proposed gold mine development as part of the Curraghinalt Project, County Tyrone.

It has been prepared by SLR Consulting Ireland (SLR) on behalf of Dalradian Gold Limited (DGL) to inform the Environmental Impact Assessment (EIA) process as part of the planning application for the development of a gold mine as part of the Curraghinalt Project.

1.2 Legislative and Planning Context

The freshwater pearl mussel (*Margaritifera margaritifera*) afforded protection under Schedules 5 and 7 of the Wildlife (Northern Ireland) Order 1985 (as amended) that fully protects this species and its habitat, that amongst other actions, makes it an offence to intentionally or recklessly:

- kill, injure or take a freshwater pearl mussel;
- damage, destroy or obstruct access to any structure or place that a freshwater pearl mussel uses for shelter or protection;
- damage or destroy anything which conceals or protect any structure or place that a freshwater pearl mussel uses; and
- disturb a freshwater pearl mussel whilst it is occupying a structure or place which it uses for shelter or protection.

The freshwater pearl mussel is also listed on Annex II and IV of the EEC Directive on the Conservation of Natural Habitats and Wild Fauna and Flora giving it a level of international protection and which places a duty on the Northern Ireland Environment Agency (NIEA) to maintain this species at a favourable conservation status.

Planning Policy Statement 2 (PPS2): Natural Heritage, published in July 2013 states that planning permission will only be granted for a development proposal that is not likely to harm a statutorily protected species, that includes the freshwater pearl mussel, and which can be adequately mitigated or compensated against.

The freshwater pearl mussel is listed as a Northern Ireland priority species.

1.3 Study Aims and Objectives

The principal aim of the freshwater pearl mussel survey was to:

- to provide an assessment of the occurrence and status of freshwater pearl mussel populations in the [REDACTED]

2.0 METHODOLOGY

2.1 Study Area

The Curraghinalt gold deposit is located in the South Sperrin Mountains approximately 7.5 km east of the village of Gortin, and between the settlements of Rouskey and Greencastle, County Tyrone.

The application site has five component project areas that include:

- i. **Proposed Infrastructure Site (Area A).** The site where the process plant and dry stack facility (DSF) will be located and includes the proposed access road of from the Crockanboy Road.
- ii. **Proposed Mineral Extraction Area (Area B).** The area where the mineral deposit is known to occur and the maximum extent of the underground mine workings.
- iii. **The Existing Surface Infrastructure Site (Area C).** The existing surface infrastructure that was developed for the underground exploration programme that will be retained for use as an early works base and for underground development and future training.
- iv. **Passing Bays on Camcosy Road (Area D).** The existing passing bays developed for the Curraghinalt Underground Exploration Programme and proposed turning point for heavy goods vehicles during the construction phase of the development.
- v. **Proposed Mineral Exploration Area (Area E).** The target area for future exploration of the Curraghinalt deposit by means of underground drifts (essentially exploration tunnels). All tunnels will be more than 100 m below the surface.

A TEC was commissioned by SLR to carry out the surveys for freshwater pearl mussel [REDACTED]
[REDACTED] 2012 and 2015 [REDACTED]

The 2012 survey included [REDACTED]
[REDACTED]

The 2015 study resurveyed key mussel beds identified in the 2012 survey, [REDACTED]
[REDACTED]

2.2 Field Survey

The freshwater pearl mussel surveys were carried out in mid-September 2015 by ATEC.

A combination of survey methodologies was employed involving both 'total counts' of mussels where mussel numbers were low by searching the river bed for mussels using standard perspex-bottomed bathoscopes, and quadrat surveys where large numbers of mussels were encountered by counting the number of mussels within a 1 x 1 m quadrat located one metre from the bank.

Previously recorded mussel beds where the 2012 survey found beds containing >20 individuals were re-inspected to monitor any change in numbers since the 2012 survey.

Full details of the methodologies employed during the survey and monitoring to re-assess mussel beds recorded in 2012 are presented in ATEC's report at Appendix 01.

2.3 Uncertainty of Data and Limitations

All surveys were carried out during optimum river conditions, i.e. low flow conditions and under the terms of survey licences issued to ATEC by Northern Ireland Environment Agency. Whilst every effort has been taken to

identify all mussels and carry out a total count this methodology was abandoned and abundance of mussels assessed by the counting the number within a 1 x 1 m quadrat [REDACTED] where this species and any distribution of such beds mapped. The abandonment of the total count methodology is not likely to have affected the findings of the survey or in the assessment of its occurrence [REDACTED] in the evaluation of this species.

Where found to be present, or absent, it is highly unlikely that the overall baseline conditions would significantly alter year on year at these locations and where any further survey or monitoring would result in a change in the evaluation and in any assessment of the implications of the proposed gold mine development on the freshwater pearl mussel. It is therefore considered that the information provided and contained within this report allows all public bodies to have due regard to their statutory obligations in the exercise of their functions under Section 1 of the Wildlife and Natural Environment (Northern Ireland) Act 2011 (as amended).

3.0 RESULTS

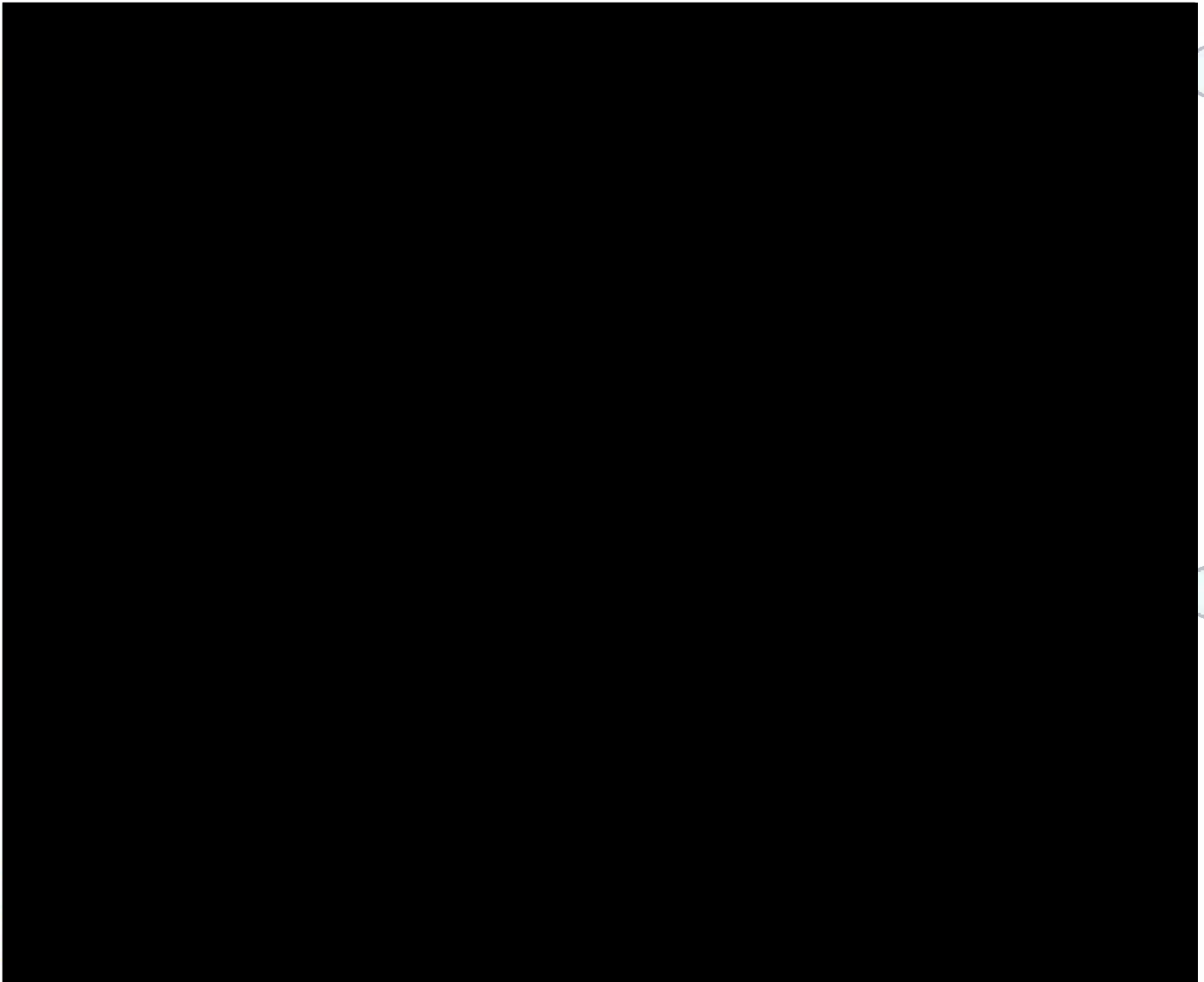
3.1 Contextual Information and Historical Records

3.1.1 Historical Records for Freshwater Pearl Mussel

The 2012 freshwater pearl mussel survey carried out by ATEC, to inform an Environmental Baseline Study commissioned by DGL as part of its exploratory works, recorded a [REDACTED]

[REDACTED] Table 1 provides a summary of the result for the 2012 freshwater pearl mussel survey and the distribution of this species shown at Figure 2 (please note that all relevant figures for the 2015 survey report are provided within ATEC's report at Appendix 01).

Table 1: Historical Records for Freshwater Pearl Mussel (ATEC 2012)



3.2 Field Survey Results

The full results of the 2015 freshwater pearl mussel survey, including figures showing the locations and distribution of this species in the river sections surveyed, are presented in ATEC's report at Appendix 01 with a summary provided below.

3.2.1 Owenkillew River

The survey recorded a total of [REDACTED] live mussels between [REDACTED]

The re-survey of the five locations historically containing >20 mussels [REDACTED] found the number of mussels at each of these locations had increased.

3.2.2 Owenreagh River

The survey recorded mussels extending for a length [REDACTED]

[REDACTED] A number of the beds were found to have a high density of mussels [REDACTED] in this section of river. [REDACTED]

4.0 DISCUSSION AND EVALUATION

4.1 Discussion of Results

4.1.1 Discussion of Results

The freshwater pearl mussel surveys carried out in 2012 and 2015 on the [REDACTED] confirmed significant populations of mussels [REDACTED]

Overall it is considered that the freshwater pearl mussel populations in the [REDACTED] are healthy with a low mortality rate, based on the small number of empty shells recorded, and with the presence [REDACTED] indicating that there has been some natural recruitment of these populations within the past 10 years.

4.1.2 Habitat Assessment

Freshwater pearl mussels live in coarse sand and fine gravels in oligotrophic, fast flowing and unpolluted rivers where they can survive for over 120 years.

The lifecycle of the freshwater pearl mussel is reliant upon Atlantic salmon, sea trout and/or brown trout for its parasitic larvae, known as glochidia, to develop into juvenile mussels. Between 1 and 4 million glochidia are ejected by each female, using in a synchronised event over one to two days, between July and September¹. Nearly all the glochidia will die, but if they get inhaled and manage to attach onto a suitable host's gill filaments they may survive.

Glochidia will remain attached to the gills of their host until the following spring when they drop off, but even then they must settle on an area of suitable sandy or gravelly substrate in order to bury itself and if it is to successfully grow. Maturity is reached at an age of 10 to 15 years.

To provide an evidence base for the conservation and management of the species, a new standard for freshwater pearl mussel catchments has been developed by a working group of European freshwater pearl mussel experts, under the auspices of the European Committee for Standardization (CEN). The standard was published in December 2016, as EN 16859:2017, and was implemented in the UK in February 2017 in the form of a British Standard (BS), as BS EN 16859:2017 *Guidance standard on monitoring freshwater pearl mussel (Margaritifera margaritifera) populations and their environment*.

BS EN 16859:2017 focuses on methods for monitoring pearl mussel populations, the fish populations that provide hosts for glochidia, physical habitat structure, flow regimes, and aspects of water quality known to be important for sustaining fresh pearl mussel populations. It also contains background information on the environmental characteristics to be monitored, targets for assessing whether freshwater pearl mussel populations are in favourable condition, and the range of environmental conditions supporting sustainable freshwater pearl mussel populations. It does not however, prescribe any limit values in respect to water quality but provides guideline water quality values as presented in Table 2.

¹ Skinner, A., Young, M. and Hastle, L. (2003). *Ecology of the Freshwater Pearl Mussel. Conserving Natura 2000 Rivers*. Ecology Series No. 2. English Nature, Peterborough.

Table 2: BS EN 16859:2017 Guideline Water Quality Values Based on Levels Observed in Rivers with Sustainable Populations of Freshwater Pearl Mussels

Parameter	Levels	Notes
Phosphorous	Variable	The mean or median Molybdate Reactive Phosphate (MRP) or total Phosphate (P) level in rivers should be consistent with the high status under the WFD – with noted exceptions. Naturally occurring levels of phosphorus vary according to river type so P targets set for rivers with sustainable pearl mussel populations must take account of the type of river in which they occur. Specific ranges of phosphorus have been associated with reproducing populations in a few countries, including Ireland and the UK. Moorkens (2006) ² found that the highest median levels associated with effectively recruiting populations in rivers in Ireland are 0.005mg/l.
Nitrate	0.125 – 0.5 mg/l N	Low values of nitrate appear to be associated with sustainable populations The lower values are based on research on rivers in Ireland by Moorkens (2006) and are annual median values.
Ammonia	Ammoniacal nitrogen never exceeding a detection limit of 0.01mg/l to up to 0.05 mg/l N	The lower values are based on research on rivers in Ireland by Moorkens (2006).
BOD/ Dissolved oxygen (DO)	Less than 1mg/l to 1.4 mg/l	Rivers with reproducing populations in the UK, Ireland and Spain have BOD5 levels consistently < 1.0 mg L-1. Dissolved oxygen levels in rivers with <i>Margaritifera</i> populations should be consistently high, where productivity is insufficient to produce extremes either of supersaturation or exhaustion of oxygen supply. Saturation levels should consistently be near to 100%.
pH	6.2 - 7.3	Must be at a natural level for the river.
Heavy metals and other toxic substances	WFD limits	WFD limits for toxic substances should be strictly adhered to.
Turbidity, TSS	Medians from undetectable (consistently 0 NTU) to < 0.3 NTU with peaks <10 NTU/FTU	Data on suspended solids is sparse, some data on turbidity is available.

The freshwater pearl mussel surveys were carried out prior to the publication of BS EN 16859:201. However, the water quality study undertaken by SRK with reference to the monitoring requirements of this British Standard and in respect to the draft sub-basin management strategy³ for freshwater pearl mussel that is based on a catchment wide scale for [REDACTED] has been produced. In addition, fisheries habitat assessment,

² Moorkens, E.A. 2006. Irish non-marine molluscs – an evaluation of species threat status. *Bulletin of the Irish Biogeographical Society*.

³ RPS (2013). *Practical Implementation of Freshwater Pearl Mussel Measures – Owenkillew Sub-Basin Management Plan*. Final Draft (October 2013). Donegal County Council and NIEA.

River Habitat Survey (RHS) and biological water quality assessment carried out by SLR also provides information and which form part of the overall assessment of baseline conditions of the riverine habitats and water quality in [REDACTED]

4.2 Evaluation

The freshwater pearl mussel is listed as 'endangered' by the International Union for Conservation of Nature (IUCN), and it is therefore considered to be facing a very high risk of extinction.

It is estimated that there are only 66 viable populations of freshwater pearl mussel in the United Kingdom⁴ including [REDACTED] and like the rest of the Europe has shown a substantial decline in its numbers.

Based on the size of populations recorded in the [REDACTED] that are of national significance and of an internationally important species it is considered that the freshwater pearl mussel populations [REDACTED] are evaluated as being of International value.

⁴ Third Report by the United Kingdom under Article 17 on the implementation of the EU Habitats Directive (2007 to 2012).

FIGURES

APPENDIX 01

ATEC (2015). A Survey of the Occurrence of Freshwater Pearl Mussel *Margaritifera margaritifera* [REDACTED] County Tyrone.



ATEC
Aquatic & Terrestrial Environmental Consultants

A Survey of the Occurrence of Freshwater Pearl Mussel
Margaritifera margaritifera [REDACTED]
[REDACTED] **County Tyrone**

September 2015

For:

SLR Consulting Ltd.
Suite 5 Brindley Court
Gresley Road
Shire Business Park
Worcester
WR4 9FD

ATEC
31 Castlewellan Road,
Banbridge,
County Down
BT32 4JQ

www.atecni.com
info@atecni.com

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SUMMARY

1. ATEC was commissioned by SLR Consulting Ltd. on behalf of their client Dalradian Gold Ltd. to undertake a survey for freshwater pearl mussel *Margaritifera margaritifera* [REDACTED] to provide baseline data as part of the environmental impact assessment for the proposed mining of the Curraghinalt gold deposit in the locale.
2. The freshwater pearl mussel is Ireland's only globally 'Endangered' species (IUCN 1996). It is protected under Appendix II of the Bern Convention and listed under Annex II and V of the EU Habitats Directive (92/43/EEC). The species has undergone dramatic declines throughout its range including in Northern Ireland.
3. [REDACTED]
[REDACTED] In addition, beds of >20 mussels discovered during a previous survey of [REDACTED] by ATEC in 2012 were revisited in order to assess the current numbers of mussels within each bed.
4. A combination of 'Total count' and quadrat survey methodologies were employed depending on mussel numbers encountered.
5. Significant populations of freshwater pearl mussels were confirmed [REDACTED]
[REDACTED]
6. [REDACTED]
7. [REDACTED]
8. There was an overall increase in the number of individuals observed within mussel beds previously surveyed by ATEC in 2012.
9. [REDACTED]
10. The mussels located within the surveyed sections [REDACTED] have been assessed as being of 'International' biodiversity value as defined using the guidelines suggested by the Institute of Ecology and Environmental Management (IEEM, 2006).

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INTRODUCTION

A TEC was commissioned by SLR Consulting Ltd. on behalf of their client Dalradian Gold Ltd. to undertake a survey for freshwater pearl mussel *Margaritifera margaritifera* [REDACTED] County Tyrone. This information will be used to provide baseline data for proposed mining of the Curraghinalt gold deposit in the locale.

The freshwater pearl mussel is Ireland's only globally 'Endangered' species (IUCN 1996). It is protected under Appendix II of the Bern Convention and listed under Annex II and V of the EU Habitats Directive (92/43/EEC) i.e. a species whose conservation requires the designation of Special Areas of Conservation (SACs) and whose taking from the wild and exploitation is subject to management.

Previous surveys have identified important mussel populations [REDACTED]

A previous survey [REDACTED] was carried out by ATEC for Dalradian Gold in 2012. [REDACTED]

AIMS

The aim of the current investigation was to undertake a survey for freshwater pearl mussel [REDACTED] previously surveyed by ATEC in 2012.

The principal objective was to provide a confident assessment of the occurrence and status of mussel populations [REDACTED] in order that mitigation measures to protect freshwater pearl mussel can be assessed and given due treatment as part of the environmental impact assessment for the gold mining project.

The survey area [REDACTED]

[REDACTED] surveyed by ATEC in 2012 were revisited in order to assess the current numbers of mussels within each bed (Figure 3).

METHODS

Desk-Based Study

[REDACTED]
CEDaR (Centre for Environmental Data and Recording CEDaR - Ulster Museum) holds two records of freshwater pearl mussel [REDACTED]

However, more detailed information on the occurrence of freshwater pearl mussels on this [REDACTED] is contained within the report prepared by Reid, Preston & Keys, 2011. This report details the results of a number of point and line transects which were carried out repeating surveys conducted by both Killeen (2007) and the Northern Ireland Environment Agency (NIEA) (2004). [REDACTED]

Owenreagh River



CEDaR (Centre for Environmental Data and Recording CEDaR - Ulster Museum) holds one record of freshwater pearl mussel [REDACTED]

Similarly, more detailed information on the occurrence and number of freshwater pearl mussels [REDACTED] is contained within the report prepared by Reid, Preston & Keys (2011) which discovered a substantial population of mussels [REDACTED]

Table 1. Location of records of freshwater pearl mussel held by CEDaR.

A large black rectangular redaction box covering the entire content of Table 1.

Field Surveys

All surveys were carried out in mid-September 2015 during times of low river flow. Surveys were conducted under the terms of survey licences issued by the Northern Ireland Environment Agency (NIEA) 


Standard methods for surveying freshwater pearl mussel in the UK employ the methods developed by Young *et al.* (2003) comprising counting of mussels along a 50m long x 1m wide transect located one metre from the bank (Killeen, 2007). This methodology was developed for population monitoring in large mussel beds. However, this survey methodology is impractical when mussel populations are small and scattered and / or when the aims of the survey are to assess the distribution and abundance of mussels over longer sections of river containing suitable freshwater pearl mussel habitat.

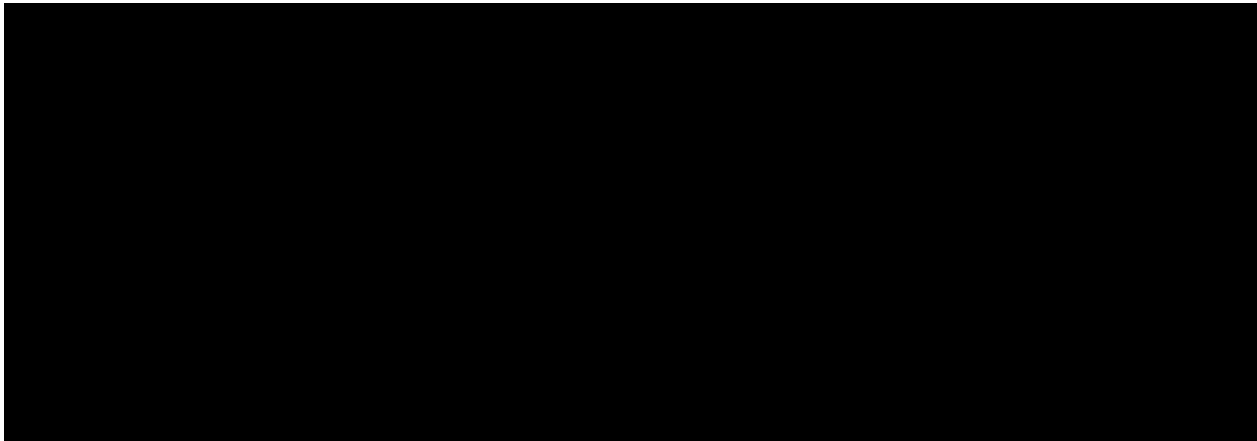
Therefore, for the purposes of the current investigation, a combination of survey methodologies was employed involving both 'total counts' of mussels where mussel numbers were low and quadrat surveys where large numbers of mussels were encountered and/or previously reported. This methodology was similar to that employed during previous surveys of Northern Irish mussel populations by Killeen (2007) and Reid, Preston & Keys (2011).

'Total count' survey methodology involved a two-man team searching the river bed for mussels using standard, perspex-bottomed bathoscopes within safe water depths (1.2 metre maximum). The surveyors worked in parallel, thus allowing a zone of circa 5-6m wide to be surveyed (Killeen, 2007). Since mussels tend to be congregated towards the margins of most mussel bearing rivers (Killeen, 2007), this methodology was judged to be more than adequate to cover the area of river surveyed. Absolute counts of freshwater pearl mussels were carried out and the location of mussels and/or mussel beds was recorded using GPS and mapping directly to 1:10,000 base maps.

Where a large number of mussels were encountered 'total count' surveys were abandoned and the distribution and abundance of mussels was assessed by counting the number of

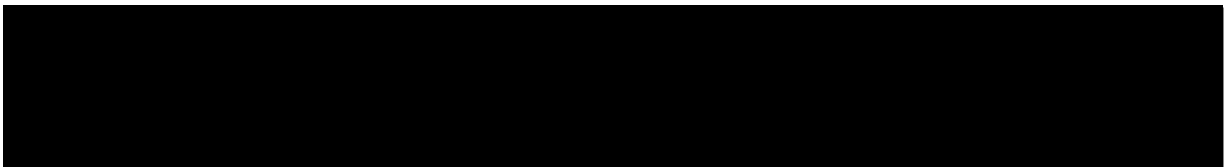
mussels within a 1x1m quadrat located one metre from the bank at 50m intervals along the river. The location of major mussel beds was noted and mapped.

Any juvenile mussels (<5cm length) observed within quadrats were noted. In addition, the location and number of any dead shells found was also recorded using GPS.



- *Re-assessment of Beds with >20 Individuals*

The location of beds containing >20 freshwater pearl mussels on sections [redacted] [redacted] surveyed by ATEC in 2012 were revisited in order to assess the current numbers of mussels within each bed using 'total count' survey methodology.



RESULTS

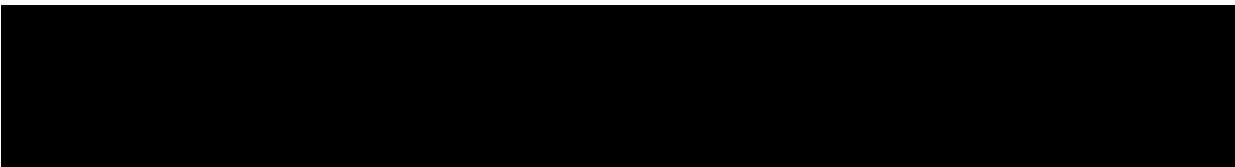
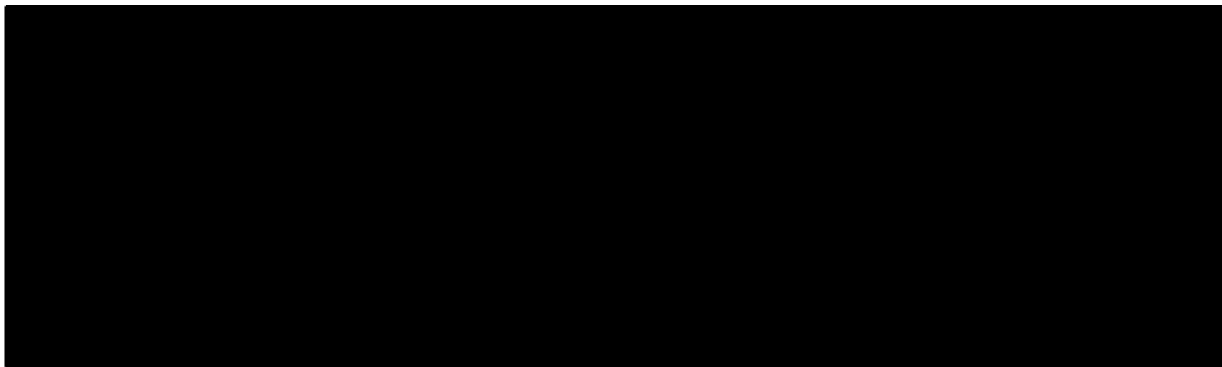
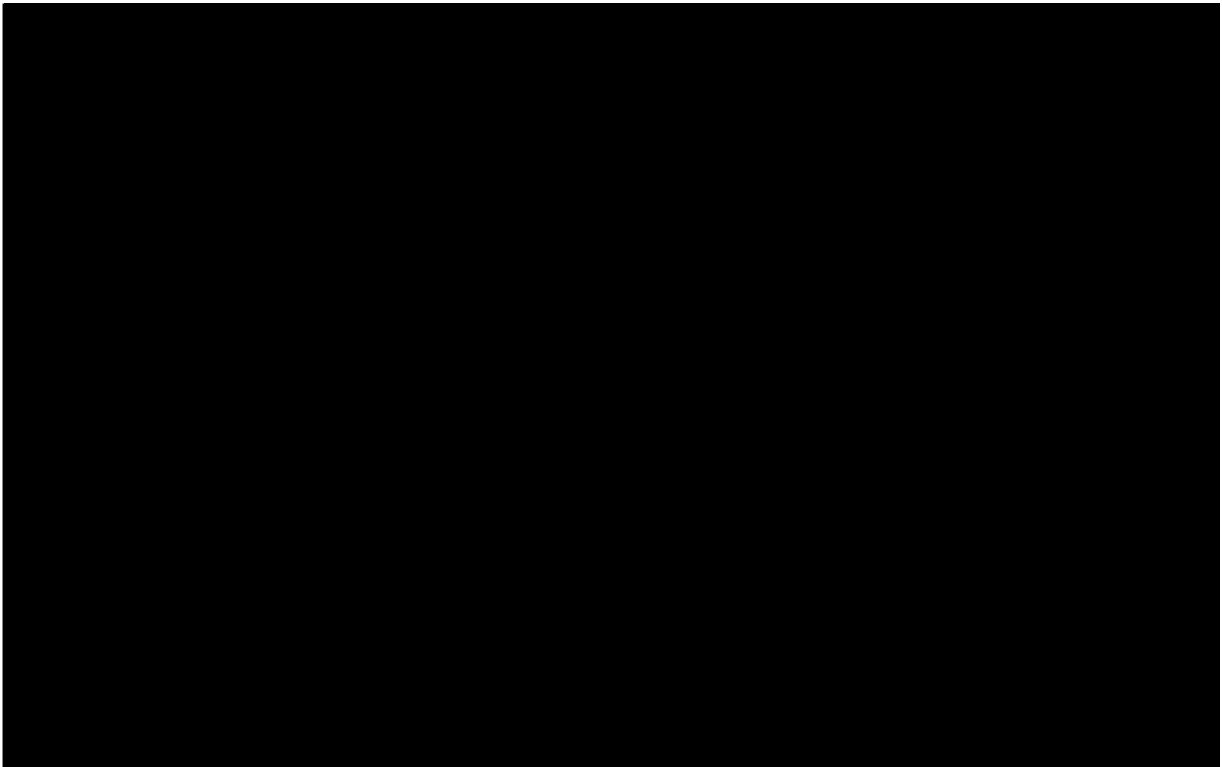


Table 2). Here mussels were found throughout [REDACTED] and particularly within extensive beds of stream water-crowfoot *Ranunculus penicillatus*. Due to the buried nature of the mussels within the crowfoot beds, it is thought that the mussel counts are an under-estimation of the population in this section of the river.

[REDACTED]

Due to the number and density of mussels observed [REDACTED] [REDACTED] total counting was abandoned and estimates of mussel density were obtained by counting mussels within a 1x1m quadrat at 50m intervals along the [REDACTED] (Figure 2, Table 3).



DISCUSSION

Significant populations of freshwater pearl mussels were confirmed [REDACTED] during the current investigation.

[REDACTED]

There was an overall increase in the number of individuals observed within mussel beds previously surveyed by ATEC in 2012.

The findings of the current investigation represent a significant increase in freshwater pearl mussel numbers and distribution [REDACTED]. Findings would indicate that there has been natural recruitment of the mussel population within the past 10 years and that adult mortality is low as evidenced by the small number of empty shells observed and the health of mussels within resurveyed mussel beds.

[REDACTED]

[REDACTED] Mortality was assessed as low due to the small number of empty shells observed.

ECOLOGICAL EVALUATION

Rationale

The criteria used to determine the biodiversity value of a species or features that may support a species include the following general considerations:

- size of populations in the local geographic context;
- rarity at a geographical level (international, national or local);
- endemism and locally distinct varieties or sub-species;
- species on the edge of their geographic range;
- species-rich assemblages of a larger taxonomic grouping, e.g. herpetofauna or overwintering birds;
- plant communities, ecosystems or habitat mosaics/associations that provide habitat for any of the above species or assemblages; and
- populations of species considered as significant under locally published guidelines or red data books.

All species and populations of species, including those with statutory protection, are evaluated on the same basis. The typical unit of a species for the purposes of evaluation is a viable population, i.e. a breeding adult(s) with sufficient habitat(s) to raise young. Where a site does not include sufficient habitat to support a viable population, then the assessed species value should be informed by the extent of the habitat required to support a viable population and the proportion of this habitat within the site. Additional weight would be given where a site supports habitats that are important or critical for the maintenance of a species population at some point in its lifecycle, e.g. open water habitats for over-wintering birds or hibernation areas for bats or amphibians. Consideration is also given to species listed as priority species in the UK Biodiversity Action Plan (BAP) or listed on the Local BAP, especially where inclusion on that list is related to one or more of the points highlighted above.

It should be noted that contribution to the local population is the primary criterion used for evaluating species. Even where a species is protected under European and UK statute, the presence of a small population on a site within a region where this species is widespread is primarily assessed as valuable at a geographic level where it contributes >1% of the population present at that level. Equally, a particular feature on a site may attract large numbers of an unprotected species that has limited distribution and this may represent a feature of regional importance.

A summary of the criteria used in the evaluation of species is provided in the Table 7.

Evaluation

██████████ is designated as an SAC (site of international importance) for its freshwater pearl mussel population.

██████████ is not currently designated as a national (ASSI) or internationally (SAC) important site. However, ██████████ is currently being considered by the Northern Ireland Environment Agency (NIEA) as a candidate Area of Special Scientific Interest (ASSI) for its freshwater pearl mussel population.

The significant number of mussels found ██████████ during the current assessment and the identification of juveniles would suggest that they form part of self-sustaining mussel populations.

Therefore, the mussels located within the surveyed sections of both rivers have been assessed as being of 'International' biodiversity value as defined using the guidelines suggested by the Institute of Ecology and Environmental Management (IEEM, 2006).

Table 7. Criteria for the Evaluation of Species.

Frame of Reference	Examples of Species that are Ecologically Significant at that Level
International	<ul style="list-style-type: none"> • A regularly occurring population of an internationally important species, which is threatened or rare in the UK. i.e. it is a UK Red Data Book species or listed as occurring as 15 or fewer 10km squares in the UK or of uncertain conservation status or of global conservation in the UK BAP. • A regularly occurring, nationally significant population/number of any internationally important species, e.g. a bird population representing greater than 1% of the international population.
National	<ul style="list-style-type: none"> • A regularly occurring, regionally or county significant population/number of a nationally important species. • A regularly occurring population of a nationally important species on the edge of its natural range. • A species assemblage of national significance.
Regional	<ul style="list-style-type: none"> • A regularly occurring, locally significant population of a species listed as being nationally scarce. For example, a species which occurs in 16-100 10km squares in the UK, or is highlighted in a Regional BAP, Red Data Book or relevant Natural Area on account of its regional rarity or localisation. • A regularly occurring, locally significant number of a regionally important species. • A species assemblage of regional significance.
County	<ul style="list-style-type: none"> • Any regularly occurring, locally significant population of a species which is listed in a county Red Data Book or BAP on account of its regional rarity or localisation. • A regularly occurring, locally significant number of a county important species.
District	<ul style="list-style-type: none"> • A population of a species that is listed in a Local BAP because of its rarity in the locality or in the relevant Natural Area profile because of its regional rarity or localisation. • A regularly occurring, locally significant number of a district important species during a critical phase of its life cycle.
Local or Parish	<ul style="list-style-type: none"> • Populations or species assemblages considered to enhance the local ecological resource.
Within zone of immediate influence only	<ul style="list-style-type: none"> • Populations or species assemblages of common and widespread species.
Negative	<ul style="list-style-type: none"> • The presence of species of flora and fauna listed under Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) or other non-native invasive species which have the potential to have significant impact on the native fauna and flora and which would be considered to have an ecological, commercial or social disbenefit, usually at a local or site level.

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EUROPEAN OFFICES

United Kingdom

AYLESBURY

T: +44 (0)1844 337380

BELFAST

T: +44 (0)28 9073 2493

BRADFORD ON AVON

T: +44 (0)1225 309400

BRISTOL

T: +44 (0)117 906 4280

CAMBRIDGE

T: +44 (0)1223 813805

CARDIFF

T: +44 (0)29 2049 1010

CHELMSFORD

T: +44 (0)1245 392170

EDINBURGH

T: +44 (0)131 335 6830

EXETER

T: +44 (0)1392 490152

GLASGOW

T: +44 (0)141 353 5037

GUILDFORD

T: +44 (0)1483 889800

LEEDS

T: +44 (0)113 258 0650

LONDON

T: +44 (0)203 691 5810

MAIDSTONE

T: +44 (0)1622 609242

MANCHESTER

T: +44 (0)161 872 7564

NEWCASTLE UPON TYNE

T: +44 (0)191 261 1966

NOTTINGHAM

T: +44 (0)115 964 7280

SHEFFIELD

T: +44 (0)114 245 5153

SHREWSBURY

T: +44 (0)1743 23 9250

STAFFORD

T: +44 (0)1785 241755

STIRLING

T: +44 (0)1786 239900

WORCESTER

T: +44 (0)1905 751310

Ireland

DUBLIN

T: +353 (0)1 296 4667

France

GRENOBLE

T: +33 (0)4 76 70 93 41