



Freshwater Pearl Mussel © Anne Lewis

Working with Wildlife

# Freshwater Pearl Mussel (*Margaritifera margaritifera*) Species Action Plan

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Plan Lead	Environment Agency
Latest version	November 2009

## Description

The freshwater pearl mussel is a bivalve mollusc that lives in fast flowing, nutrient poor rivers with clean sandy and stony bottoms. They are filter feeders, extracting fine organic particles from the water. Their shell is oval and elongated and is dark brown or blackish in colour. They can grow up to 15cm long and have a natural life span of up to 80 to 100 years, making them one of the longest lived known invertebrates. As the name suggests they can produce pearls and have been exploited for these since Roman times.

During reproduction females inhale male sperm from the water, producing tiny bivalve larvae called 'glochidia' from the fertilised eggs. Each female is able to shed about 3 million of these in late summer. The species is dependent on the presence of salmonid fish as the larvae lodges on their gills. It is estimated that only 0.1% survive this stage of the life cycle. In spring the juvenile mussels fall off their host gills and try to find a suitable location in clean sand or gravel. There is further massive mortality at this stage as juvenile mussels are eaten by fish. Those that are successful grow quite rapidly reaching 2cm in 4 to 5 years. Adult mussels are known to be eaten by otters and also avian predators if they are stranded by low water.

The freshwater pearl mussel is a rare, globally threatened species that had been lost from all but seven rivers in England. Many of the UK populations may not have produced young for over 30 years, creating a fragile aging population.

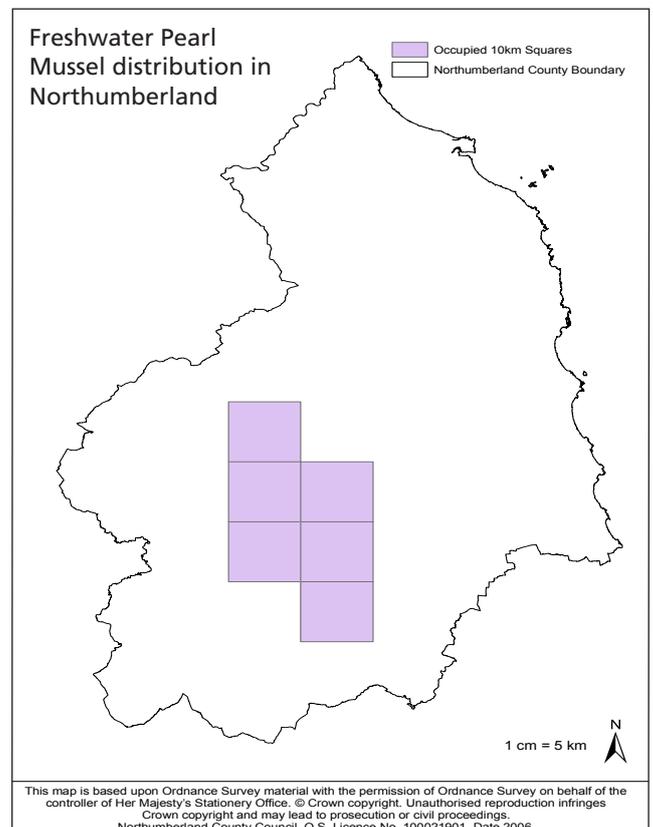
## Conservation Status

IUCN/WCMC Red Data List, vulnerable  
Bern Convention, Appendix II  
EC Habitats Directive, Annexes II and V  
Wildlife & Countryside Act 1981, Schedule 5  
UK Biodiversity Action Plan Species

## Current Extent in Northumberland

In Northumberland the freshwater pearl mussel is found on the North Tyne and River Rede; collectively making up one of the two remaining significant populations in England.

A breeding programme for freshwater pearl mussel is currently being implemented at Kielder hatchery with a view to infecting the fish stock for the North Tyne and Rede to try and address the decline in the species.



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### Current Factors Causing Loss or Decline

- Eutrophication
- Chemical water pollution
- Habitat removal and alteration through diffuse pollution, works in rivers, drainage schemes, flow regulation and fisheries management
- Amateur pearl fishing, aided by improved accessibility
- Sedimentation from bankside soil erosion

### Associated Action Plans

Rivers and Streams

Freshwater Fish

### Further Information

This freshwater pearl mussel plan links to the freshwater pearl mussel UK BAP action plan, whose lead partner is the Environment Agency.

### Targets

**Maintain the current range of the Freshwater Pearl Mussel in Northumberland of 6 ten kilometre squares by 2015**

Code	Priority Actions	Date
FPM A01	Monitor known populations of freshwater pearl mussel	ongoing
FPM A02	Continue the breeding programme at Kielder hatchery and implement stocking of the Tyne and Rede with infected fish	ongoing
FPM A03	Identify a programme of measures to address the problem of works in rivers based on the requirements of the species	2008
FPM A04	Contact land owners and managers to advise where the species is present and the effect that various activities can have on the species	2008
FPM A05	Continue dialogue with Natural England on establishing SSSI status for the pearl mussel population area	2010