

Freshwater pearl mussel

Member's Debate S4M-06401



- Freshwater pearl mussels are critically endangered and remain at risk from a range of pressures.
- Effective and co-ordinated action is urgently needed to prevent illegal pearl fishing and to protect existing pearl mussel habitat.
- Current regulation relating to the freshwater environment and land use must be robustly enforced. The Regulatory Reform (Scotland) Bill must strengthen and not undermine environmental protection.
- Co-ordinated effort and adequate funding is needed to restore freshwater habitats and to help species adapt to a changing climate.

A species in trouble: current threats

Freshwater pearl mussels (*Margaritifera margaritifera*) are at risk from a range of factors including wildlife crime, habitat degradation, water pollution, declining populations of fish hosts and climate change:

Wildlife crime - The species has been exploited for pearls for centuries. Despite it now being fully protected under the Wildlife and Countryside Act 1981¹, freshwater pearl mussels continue to be threatened by illegal activities.

Habitat degradation and water pollution – engineering works or impoundments within rivers can cause problems for pearl mussels with dredging, canalisation, and weir construction all potentially causing loss or deterioration of suitable habitat². Pearl mussels are also under threat from water pollution, for example, from nutrient enrichment that arises from agricultural run-off or septic tanks.

Declining populations of fish hosts – pearl mussels spend part of their life cycle developing harmlessly in the gills of salmon and trout. Therefore, factors that threaten their fish hosts (e.g. water pollution, barriers to fish movement, parasites and invasive non-natives like American signal crayfish) can be detrimental to pearl mussels too.

Climate change – the species is likely to be affected by future changes in rainfall patterns³. Increased intensity of rainfall and subsequent flooding can dislodge pearl mussels from river beds. Conversely, pearl mussels are vulnerable to localised droughts where sections of the river bed dry out and low river flows exacerbate the effects of pollution.

Opportunities and conservation action

Tackling illegal activities

Urgent action is needed to protect remaining pearl mussel populations. Many activities (engineering, impoundments, abstractions and pollution) that can directly or indirectly damage pearl mussels are regulated under the Controlled Activities Regulations (CAR)⁴.

¹ <http://www.legislation.gov.uk/ukpga/1981/69>

² <http://www.snh.gov.uk/docs/B337911.pdf>

³ http://www.snh.org.uk/pdfs/publications/commissioned_reports/Report%20No249.pdf

⁴ [Water Environment \(Controlled Activities\) \(Scotland\) Regulations 2011](http://www.snh.gov.uk/docs/B337911.pdf)

It is crucial that these regulations are strongly enforced and closely monitored by SEPA to assess their effectiveness in protecting the environment. While we welcomed that action was taken with the case in Glen Lyon⁵, we are concerned that similar illegal activities go undetected or unenforced. Our concern is warranted by SEPA's findings following work in the diffuse pollution priority catchments which discovered a high number of breaches of the diffuse pollution General Binding Rules. SEPA is now undertaking work to address those breaches but it does emphasise that awareness and compliance with the regulations is low and must be addressed. Action is also needed to tackle wider land use activities that can damage pearl mussel habitats through nutrient enrichment and siltation arising from ditch clearing and drainage activities. As noted above, this would be partly addressed through compliance with CAR. However, **there must also be more rigorous enforcement of cross compliance and the Environmental Impact Assessment (Agriculture) (Scotland) Regulations 2006.**

River restoration and sustainable land use

Restoration of the water environment is urgently needed if Scotland is to meet Water Framework Directive targets and River Basin Management Plan objectives. Restoration measures such as removal of fish barriers and river renaturalisation can be positive for pearl mussel. **A Restoration Plan is currently being finalised by SEPA and we urge that this brings strategic and co-ordinated action on restoration.** The Water Environment Fund funds restoration and we urge that this funding continues and is used to deliver prioritised restoration activities. Every opportunity should be taken to integrate policies in order to deliver benefits for pearl mussel alongside other priorities. For example, Scottish Water is developing its work on sustainable land management to meet drinking water quality objectives. This is ongoing through the Scottish Water Best Practice Incentive Scheme and the provisions in the Water Resources (Scotland) Act 2013 will build on this. Synergies should be sought in order to implement land management measures (e.g. peatland restoration and riparian buffer strips) that are not only positive for pearl mussel but also drinking water sources, flood management and climate change adaptation. In the Scottish Government's forthcoming Adaptation Programme, consideration must be given to how climate change will impact on this species and steps that can be taken to help it adapt.

Regulatory reform

The Regulatory Reform (Scotland) Bill is set to bring a new regulatory framework for SEPA. **RSPB Scotland is concerned that the proposed duty for SEPA to achieve sustainable economic growth will conflict with strong protection for the water environment.** We welcome the wider range of sanctions, including fixed and variable monetary penalties, introduced by the Bill.

For further information please contact:

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⁵ http://www.sepa.org.uk/about_us/news/2013/hydro_scheme_firm_fined_%C2%A34,000.aspx