

PROTECTED SPECIES ADVICE FOR DEVELOPERS



FRESHWATER PEARL MUSSEL

Legal protection for freshwater pearl mussels

Freshwater pearl mussels are protected by the Wildlife and Countryside Act 1981 (as amended) and by the Nature Conservation Act 2004. Offences relevant to development works include to intentionally or recklessly:

- kill, injure, take or disturb a freshwater pearl mussel;
- damage, destroy or obstruct access to a riverbed supporting freshwater pearl mussels;

This means that if freshwater pearl mussels could be affected in these ways by your development, and you take no action to prevent it, you run the risk of committing an offence.

Where impacts that would result in an offence cannot be avoided, a species licence can be issued in some cases to allow the works to proceed. Licences will only be issued if certain tests are met (see licensing section below). **It is important that any licensing issues are considered as part of your planning application.** This is to avoid a situation where planning permission is secured but the lack of a species licence prevents the development from proceeding.

In addition, some of the key freshwater pearl mussel populations are qualifying features of Special Areas of Conservation (SACs), and therefore receive further protection under the Habitats Regulations. See references in the following section for further information with respect to freshwater pearl mussels and SACs.

When a development might affect freshwater pearl mussels

Freshwater pearl mussels inhabit coarse sand and gravel beds of fast-flowing, non-calcareous streams and rivers. They are dependent on the presence of trout or salmon to complete their life cycle. Mussel larvae released by adult females in summer need to attach themselves to the gills of young trout or salmon, where they live harmlessly before dropping off and settling on the river bed the following spring.

Originally widely distributed throughout Scotland, the freshwater pearl mussel is now extinct in most of the lowlands, and scarce everywhere except for a selection of Highland rivers, and a handful in the southwest. Because of their rarity and the threat posed by illegal pearl fishing, the precise locations of freshwater pearl mussel populations are not made public. You should contact SNH if your development proposal could potentially affect freshwater pearl mussels.

Freshwater pearl mussels are filter feeders and so vulnerable to any reduction in water quality. They can be affected by chemical pollutants entering the river or being smothered by the release of soil or other material into the river. Freshwater pearl mussels are particularly sensitive to any increase in phosphorus levels which feeds algal growth, blocking the spaces in the river gravels they rely on and reducing the amount of oxygen available to them.

We have published guidance specifically for developers considering projects that could affect the [River Tay SAC](#) and [River South Esk SAC](#), and is applicable to other freshwater pearl mussel SACs. For a full list of SACs supporting freshwater pearl mussels see the

[JNCC website](#). The guidance is also applicable more generally outwith SACs in terms of the potential impacts of development proposals on freshwater pearl mussels and how to avoid them.

If freshwater pearl mussels could be found in a watercourse within or close to your development site, you are likely to be required to have a survey undertaken.

Carrying out a freshwater pearl mussel survey

When

Freshwater pearl mussel survey work can only be undertaken in periods of low water flow, which usually means that surveys are restricted to being carried out between April and September.

How

Surveys involve carefully and systematically walking stretches of river using a clear-bottomed bucket to look for mussels on the river bed. The extent of the survey required will depend on the nature of your development proposal. Details of requirements and procedures are provided in our [Freshwater Pearl Mussel Survey Protocol](#).

The methods involved can cause disturbance to freshwater pearl mussels and so will require a survey licence from SNH (contact licensing@snh.gov.uk). Surveys must be carried out by experienced and appropriately trained individuals, and with appropriate safety procedures in place given the potential dangers of working within fast flowing rivers. This [Survey Licence Application Form](#) will need to be completed.

Your survey report should include:

The survey information required and how to present it in your survey report are described in our [Freshwater Pearl Mussel Survey Protocol](#).

Preparing a freshwater pearl mussel protection plan

If your survey finds freshwater pearl mussels that could be affected by your proposal, you will need to prepare a species protection plan.

The protection plan should include:

- details of how the development is likely to affect freshwater pearl mussels;
- mitigation measures to be employed to avoid any offence and minimise impacts on freshwater pearl mussels;
- summary of any residual impacts once mitigation measures have been taken into account.

Typical mitigation measures are:

- careful design of development and location of infrastructure to avoid any potential impact on freshwater pearl mussels;
- management of site drainage using appropriately sized settlement ponds and/or silt traps to avoid direct entry into watercourses;
- appropriate treatment of any discharge arising from the development;
- creation of buffer strips along watercourses excluding construction work or vehicle movements;
- minimising the amount of topsoil stripped or stockpiled at any one time;
- putting sediment trapping barriers in place to prevent any sediment entering watercourses, such as bunds or dams;
- avoiding crossing through any watercourses close to a freshwater pearl mussel bed, or, where unavoidable, constructing temporary bridges;
- avoiding carrying out any works resulting in ground disturbance during or

immediately following wet weather, including vehicle movements that could churn up ground and expose soil;

- laying down protective matting across any damp ground likely to be churned up by vehicle movements;
- brushing roads regularly to keep free of dust and mud;
- safe storage of any chemicals and/or fuels to be used on site;
- maintaining natural water levels in areas occupied by freshwater pearl mussels.

Annotated maps and photographs are a useful way of showing the location of the mitigation measures proposed, and how they relate to survey information and construction works.

Licensing development works affecting freshwater pearl mussels

If your development cannot avoid an offence with respect to freshwater pearl mussels, a licence will be required from SNH to allow work to proceed. Such a licence can only be issued for development purposes if:

- a) the development will give rise to significant social, economic or environmental benefit, and
- b) there is no other satisfactory solution.

For further information on protected species licensing see the following SNH guidance notes:

[Protected Species Licensing: Legislation, Appropriate Authorities and Licensing Purposes](#); [Protected Species Licensing: Licences for 'social, economic or environmental purposes'](#).

Note that additional authorisation for development activities adjacent to, and in the vicinity of watercourses may be required from SEPA under The Water Environment (Controlled Activities) (Scotland) Regulations 2011 (as amended). Further information and guidance regarding these activities and CAR licence requirements can be found on the [SEPA website](#).