



Glossary

- DECLINE** – lessening in quantity
- EXTINCT** – no longer in existence
- FILTER** – allows liquid through but traps solid matter
- HABITAT** – natural home of an animal or plant
- MOLLUSC** – group of invertebrate animals with muscular foot and hard shell
- SILT** – material finer than sand deposited or suspended in running or still water
- SPECIES** – any group of animals that share a common characteristic
- POPULATION** – a large group of animals

Biodiversity Links

The freshwater pearl mussel is part of Scotland's biodiversity, (which means the variety of life, and includes plants and animals, and the places in which they live). To help children understand how everything links and review their understanding of biodiversity, photocopy the cards on the reverse of the Freshwater Pearl Mussel poster. Cut them out and group into the following categories: (Add another species of your choice to each category?)

1. **Mammals** (warm blooded, give birth to live young and feed them on milk)
2. **Birds** (warm blooded, have feathers, lay eggs, most can fly)
3. **Reptiles** (cold blooded, lay eggs on land, often have scaly skin)
4. **Amphibians** (cold blooded, lay eggs in water, but the adults can live on the land, soft skin)
5. **Fish** (cold blooded, have scales, breathe in water using gills)
6. **Invertebrates** (small creatures without a backbone)
7. **Plants** (have green leaves and use energy from sunlight to make food)

You can also use the cards as a game for finding simple food chains linked to the Freshwater Pearl Mussel.

Biodiversity

What can we do to help?

Looking after Scotland's wildlife and countryside is important if we want to keep freshwater pearl mussels and the places where they live.

- Enjoy watching Scotland's wildlife and remember to be as quiet as you can – so that you do not disturb the animals
- Take all your rubbish home – and recycle it
- Join or start a group that looks after your local area for wildlife

Crossword Activity

see back of Freshwater Pearl Mussel poster

For further information and images

www.snh.org.uk/wildlifecrimeschools/index

www.bbc.co.uk/wales/nature/sites/wildlife/pages/pearl_mussels

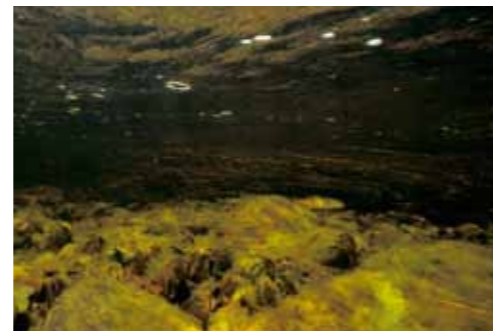
www.arkive.org

www.waterscape.com/features/wildlife/pearl_mussel

www.snh.org.uk/speciesactionframework

Poster Quiz

1. What is the name of the creatures in the poster?
2. Describe these creatures
3. This creature has few predators but who is it in danger from?
4. How does it get its food?
5. Give two reasons why these creatures are in danger of becoming extinct?
6. What age can these creatures live to?
7. Why are salmon and trout important to these creatures?
8. Why are these creatures important to salmon and trout?



Acknowledgements

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There is a poster to go with this factsheet and other posters and factsheets in the 'All About' series. Download the poster from www.snh.org.uk/pdfs/education/poster/musselposter.pdf or contact SNH, Battleby, Redgorton, Perth, PH1 3EW



All about Freshwater pearl mussels



Scotland is home to a very rare type of shellfish, the freshwater pearl mussel. As its name suggests, it can grow a pearl inside. The pearl mussel is now struggling to survive for two reasons

1. People kill the mussels for the pearls.
2. Mussels need clean water and many of their rivers and streams became polluted as human populations and industries grew.

What is a pearl mussel?

A pearl mussel is similar to the mussels found at the seaside but pearl mussels only live in fresh water – in rivers and streams.

They also live longer than sea mussels and can live for more than 100 years.

100 years ago freshwater pearl mussels were common in most Scottish rivers.

Today, there are very few rivers which still have them.

Julius Caesar's desire for pearls is one of the recorded reasons for the first Roman invasion of Britain in 55BC



Pearl fishing kit and pearls

Pearls

Very occasionally a pearl mussel will start to grow a little pearl inside it, that will gradually grow.

Pearl fishing is illegal because you have to break the shell open to find if there is a pearl inside and the animal is killed.



Half the world's known breeding population of pearl mussels are found in Scotland, so protecting Scotland's pearl mussels is not just important for Scotland but has world-wide importance.

It is against the law to kill, injure or even recklessly disturb freshwater pearl mussels. It is also an offence to sell freshwater pearls.

It is also against the law to damage the habitat

Filtering the water - for other river dwellers!

Filter Fact 1

Pearl mussels are filter feeders. Their gills act like lots of microscopic nets and they 'catch' tiny bits of animals and plants which are floating in the water.

They suck the water in through one tube, 'clean' the water with their 'nets' and squirt the water out through the other.

Filter Fact 2

Adult pearl mussels can filter 50 litres of water a day! Large beds of pearl mussels contain 1000's of mussels. All together these mussels clean so much water that the quality of the water can improve for fish such as salmon and trout.

Pearl mussels belong to the huge group of animals called **invertebrates** (meaning 'no backbone'). There are many different types of invertebrates, like insects and spiders. Mussels belong to a group of **invertebrates** called **molluscs**. This group includes slugs and snails and other shellfish found on the beach. The octopus is one of the largest and most intelligent molluscs.



Man-made problems

Below is a list of the things which pearl mussels need to survive.

Can you turn this list into reasons why pearl mussels have almost disappeared from Europe and Scotland?

Pearl mussels need:

- Fast flowing, clean water
- To be left alone to grow into big adults
- Lots of salmon and trout in the rivers
- Silt-free water and river beds

The Hitch Hiker

The Amazing Pearl Mussel's Life Cycle

2. In summer the females release millions of baby mussels (larvae)

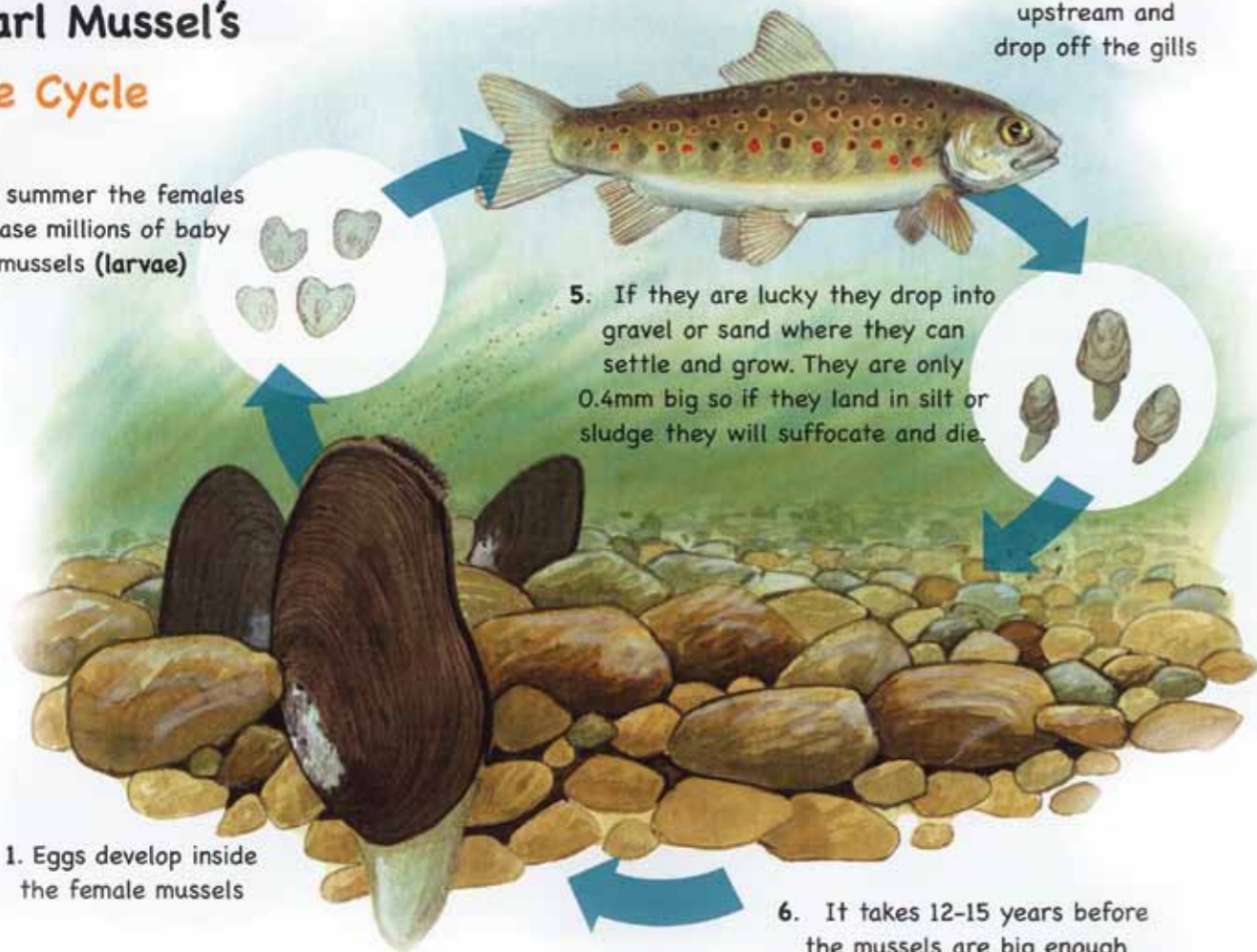
3. Most larvae are swept away downstream but some are sucked into a young salmon or trout and they stick onto its gills

4. They hitch-hike upstream and drop off the gills

5. If they are lucky they drop into gravel or sand where they can settle and grow. They are only 0.4mm big so if they land in silt or sludge they will suffocate and die.

1. Eggs develop inside the female mussels

6. It takes 12-15 years before the mussels are big enough (6.5 cm) to make new eggs.



Wildlife Crime Drama

Freshwater Pearl Mussels are still illegally killed for their pearls. This is called 'Wildlife Crime'.

- Divide into groups
 - "Freshwater pearl mussels"
 - "Family on a day out"
 - "Criminals"
 - "Wildlife Crime Officers"
- In your group write a short drama script for a scenario involving the characters above.
- Or use improvisation



Tell-tail pile of shells left at the Crime Scene

Life Cycle Mobile

- Look at the diagram for the lifecycle of the Freshwater pearl mussel
- Draw each part of the lifecycle onto card and paint
- Suspend the pieces in the correct order from 2 crossed metal coat hangers
- Attach information labels to explain each stage of the lifecycle



Writing Activity

In groups have the children write a simple acrostic poem (where you use each letter of the name of the animal to start the line of the poem) or rhyming poem for the freshwater pearl mussel

Have a brainstorm of the words which could be used for each letter before they start

Freshwater Pearl Mussel

Freezing

River

Evening

Sun

Heavenly view

Water

Always

Tumbling

Ever

Rushing

Peaceful

Evening

About to be

Ruined

Look!

Men

Under

Surface

Sifting, no

Escape for the poor

Little 100 year old mussel...

