

BEAVERS ON THE TAY



INTRODUCTION

Beavers became extinct in Scotland over 400 years ago, mostly because of hunting for their furry pelts. But today they're back: in Argyll as part of a controlled trial reintroduction scheme, and in Tayside unofficially, perhaps through individual releases. The story of the beavers' return to Scotland is interesting, surprising and engaging for pupils, and if you live in Tayside, has a particular relevance.

We suggest some cross-curricular approaches for investigating the reappearance of beavers in Tayside. In rural communities, even if pupils never spot a beaver themselves, they are bound to meet people who have a view on their reappearance.

Following these, we provide a brief fact file and an overview of the content for pupils shown on the website.

SUGGESTIONS FOR TEACHING AND LEARNING ACTIVITIES

INTRODUCTORY ACTIVITIES

Look at the resources online, perhaps starting with the image of the gnawed tree, and then the clip from Autumnwatch.

This online gallery has some good images:

<http://taysidebeaverstudygroup.org.uk/gallery/4573260634>

Have any of the pupils heard of beavers in their area? Ask at home if anyone has heard of/ seen signs of beavers; what do people think of them?



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SUGGESTIONS FOR TEACHING AND LEARNING ACTIVITIES

CURRICULAR AREA

Science: Planet Earth
Biodiversity and
Interdependence

EXPERIENCES & OUTCOMES

I can use my knowledge of the interactions and energy flow between plants and animals in ecosystems, food chains and webs. I have contributed to the design or conservation of a wildlife area.
SCN 2-02a

KEY LEARNING ACTIVITIES

Pupils carry out research into the beaver as a 'keystone' species for Scotland, perhaps using this resource:

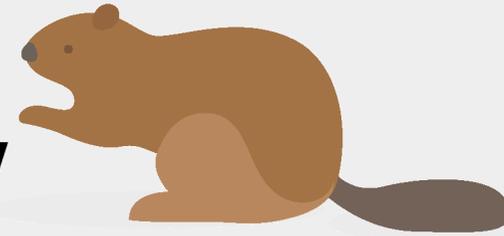
<http://www.scottishbeavers.org.uk/beaver-facts/learning-zone/#Keystone%20species>

What does the beaver need to survive?

How do beavers adapt their environment?

What are the impacts of these adaptations, on the landscape, on other species – and on humans?

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SUGGESTIONS FOR TEACHING AND LEARNING ACTIVITIES

CURRICULAR AREA

Technologies:
Craft, Design,
Engineering and
Graphics Contexts for
Developing Technological
Skills and Knowledge

EXPERIENCES & OUTCOMES

Through discovery and imagination, I can develop and use problem-solving strategies to construct models.

TCH 1-14a / TCH 2-14a

Having evaluated my work, I can adapt and improve, where appropriate, through trial and error or by using feedback.

TCH 1-14b / TCH 2-14b

KEY LEARNING ACTIVITIES

Either out at a woodland/bog area, or in a controlled classroom environment, pupils construct dams from the same materials as beavers (sticks, mud etc).

What designs work best?
What is the impact of the dams?

This resource gives some guidance:

<http://www.scottishbeavers.org.uk/beaver-facts/learning-zone/#Dam%20building>

BEAVERS ON THE TAY



SUGGESTIONS FOR TEACHING AND LEARNING ACTIVITIES

CURRICULAR AREA

Social Studies:
People in Society,
Economy and
Business

Literacy and English

EXPERIENCES & OUTCOMES

I can use evidence selectively to research current social, political or economic issues.
SOC 2-15a

I can select ideas and relevant information, organise these in an appropriate way for my purpose and use suitable vocabulary for my audience.
LIT 2-06a

Using what I know about the features of different types of texts, I can find, select and sort information from a variety of sources and use this for different purposes.
LIT 2-14a

I can persuade, argue, explore issues or express an opinion using relevant supporting detail and/or evidence.
LIT 2-29a

KEY LEARNING ACTIVITIES

What do people think of the beavers' return?
Who gains?
Who might lose out?

Collect opinions, through interviews and review of online media, and draw up lists of reasons supporting and opposing the reintroduction of beavers to Scotland.

This resource provides a range of views (though it does focus on the controlled reintroduction in Argyll):
<http://www.scottishbeavers.org.uk/beaver-facts/learning-zone/#Debate>

Debate the motion: This house believes that the return of beavers is good for Tayside.

BEAVERS ON THE TAY



BACKGROUND INFORMATION

- Eurasian beavers were native in Scotland until they were hunted to extinction for their fur around the 16th century.
- They have distinctive big flat tails and sharp front teeth for gnawing wood.
- They are vegetarian, mostly nocturnal and very shy.
- They build dams to create pools of slow-moving fresh water, and to ensure that the entrances to their homes ('lodges') stay underwater to keep predators out.
- They are a 'keystone' species, which means that their activities contribute to the survival of a range of other wildlife. When they create pools of water, they are forming habitats for frogs, otters, fish and insects.
- In 2006 people in Tayside started spotting beavers. It is not known where they came from, but they were probably escapees or illegal releases from private collections. Now it is thought that there are more than 150 beavers living in the Tayside area.
- They are known to be present on the rivers Tay, Earn, Isla, Ericht, Dean Water, Baikie Burn and Lunan Burn.
- Despite beliefs from some people that beavers have contributed to flooding in Tayside, in fact the opposite may be true: dams built by beavers may act as slow-release systems, reducing the risk of flash flooding.
- Their dams may act as a barrier to migratory fish, such as salmon and trout, which is why beavers may be unpopular with fishermen.
- On the other hand, the dams might lead to an increase in habitats suitable for overwintering salmon and an increase in water insects as food for the fish.
- Their appearance coincides with an official experiment to reintroduce beavers to Knapdale in Argyll, known as the Scottish Beaver Trial.

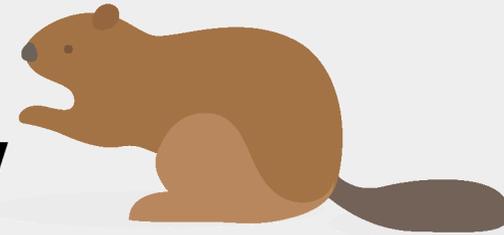
BEAVERS ON THE TAY



PUPIL FACT FILE

- Did you know that there were lots of beavers in Scotland until they were hunted to extinction for their fur around 500 years ago?
- You know that beavers have big flat tails and sharp front teeth for gnawing wood. But did you know that they wear goggles? They have a set of transparent eyelids which help them see underwater.
- They are totally vegetarian, are mostly nocturnal and are very shy.
- They build dams to create the pools of slow-moving fresh water they like, and to make sure that the entrances to their homes stay underwater to keep predators out.
- Their homes are called lodges. They often have two rooms inside them – one a kind of lobby, for drying off, and the other room where the family lives.
- They live in family units and their babies are called kits.
- In about 2006 people in Tayside started spotting beavers. No one knows where they came from, but they probably escaped or were set free from private collections. Now there are more than 150 beavers living in the Tayside area!
- Are beavers good or bad for the environment? They create pools of water which provide a habitat for all kinds of smaller creatures. But they can cause flooding of fields, and they do gnaw trees!

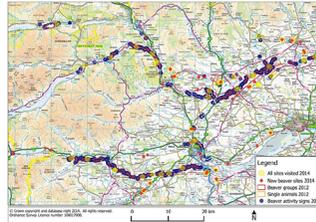
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PUPIL RESOURCES



AUTUMNWATCH VIDEO



BEAVER DISTRIBUTION



TREE AT LOGIERAIT



BBC ARTICLE

FURTHER RESOURCES FOR TEACHERS

The Tayside Beaver Study Group

Information about the Tayside beavers, together with an informative report on their activities:

<http://www.snh.gov.uk/protecting-scotlands-nature/beavers/tayside-beaver-study-group/>

The Scottish Beaver Trial

<http://www.scottishbeavers.org.uk> The official website of the official trial in Knapdale, Argyll.

This includes the Scottish Beaver Trial education pack – produced by RZSS. Downloadable from

<http://www.scottishbeavers.org.uk/beaver-facts/learning-zone/>

Report: Beavers in Scotland

Produced by SNH, this is a useful (if quite technical) report on the status and activities of beavers in Scotland. It includes a map showing recorded beaver activity across Tayside.

<http://www.snh.org.uk/pdfs/publications/research/Beavers%20in%20Scotland%20-%20Final%20-%2010%20June%202015.pdf>

BEAVERS ON THE TAY



Did you know there were lots of beavers in Scotland until they were hunted to extinction for their fur around **500** years ago?

They are totally **VEGETARIAN**, are mostly **NOCTURNAL** and are very **SHY**.

Their homes are called **LODGES**. They often have two rooms inside them – one a kind of lobby, for drying off, and the other room where the family lives.

In about 2006 people in Tayside started spotting beavers. No one knows where they came from, but they probably escaped or were set free from private collections. Now there are more than **150** beavers living in the Tayside area!

You know that beavers have **BIG FLAT TAILS** and **SHARP FRONT TEETH** for gnawing wood. But did you know that they wear **GOGGLES**? They have a set of transparent eyelids which help them see underwater.

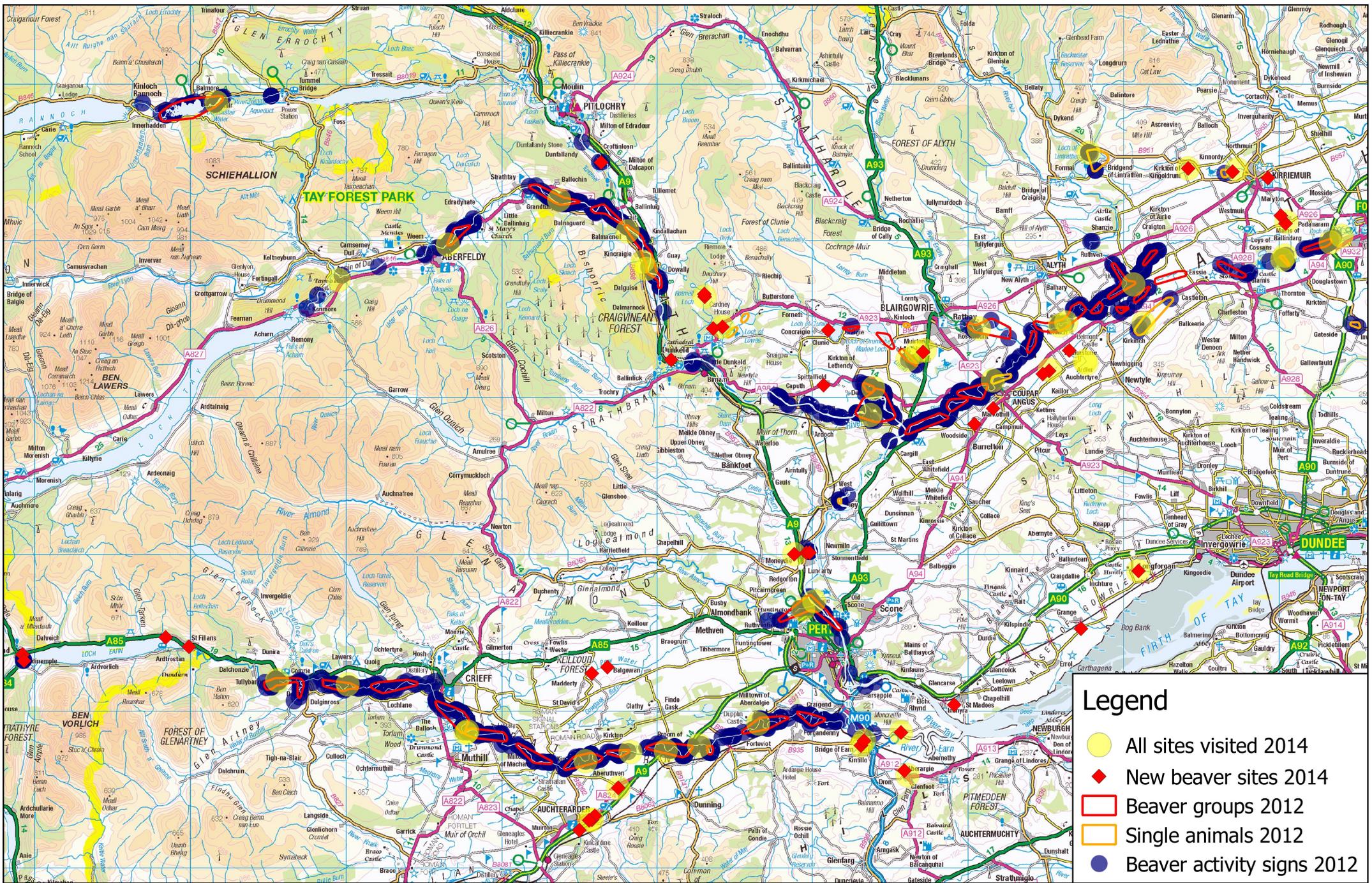
They build **DAMS** to create the pools of slow-moving fresh water they like, and to make sure that the entrances to their homes stay underwater to keep predators out.

They live in family units and their babies are called **KITS**.

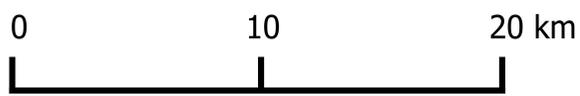
Are beavers good or bad for the environment? They create pools of water which provide a **HABITAT** for all kinds of smaller creatures. But they can cause flooding of fields, and they do gnaw trees!







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Tayside and Central Scotland

Tayside beaver colonies 'adapting well to Scotland'

29 April 2015 | [Tayside and Central Scotland](#)



ANTENORE

A decision on the future of the beavers is due from the Scottish government later this year

More than 150 beavers living in Tayside waterways have adapted well to life in Scotland, studies have found.

The Scottish government is considering whether to permanently reintroduce the animals to the wild, with a trial scheme underway in Knapdale, Argyll.

Studies concluded that the Tayside beavers, which originated from escapes or illegal releases, had settled in well to the local environment.

Proposals to trap or cull the rogue beavers proved controversial.

The Scottish government agreed to monitor the situation for three years when **the matter was last raised in 2012**, faced with the alternative options of removing the animals or accepting their presence.

The findings from the Tayside Beaver Study Group will help inform a government decision on the future of the animals in Scotland, alongside a trial **reintroduction of the animals** at Knapdale in Argyll.

There had been fears that the beavers could damage ecosystems or spread diseases, but the study group set up by Scottish Natural Heritage suggests they have settled in effectively, despite some land management issues.



The main concerns about the beavers is the impact they could have on farmland

The beavers, which are of the Eurasian species once native to Britain, have been found in rivers and lochs stretching from Kinloch Rannoch, Kenmore and Crieff in the west to Forfar, Perth and Bridge of Earn in the east. It is likely they are of Bavarian or German descent.

They are successfully producing young and still spreading through the Tayside area, and are free from diseases of concern to humans, domestic animals and other wildlife.

Negative impacts

The most significant impact beavers could have is on agricultural land, for example by building dams on the River Isla or the Tay and causing flooding on arable land nearby.

A number of methods of protecting trees from being gnawed and felled have proved successful, preventing flooding, but the impact of the animals have had by burrowing into flood banks and

damming drainage ditches has proved more difficult to manage.

The study group said this would need to be addressed if the beavers are to be left in place, as 70% of reported negative impacts due to beaver activity stated a financial cost as a consequence.



The Tayside beavers are free of diseases which could harm humans or domestic animals

David Bale, chairman of the study group and SNH's area manager for Tayside and Grampian, said the findings were "very useful".

He said: "The findings show there is no evident risk of diseases being transmitted from the Tayside beavers to other animals, or indeed to humans.

"The genetic tests tell us that they would be suitable for permanent reintroduction to Scotland, because they are Eurasian rather than North American beavers. They are also varied enough genetically to make a reasonable first step towards a full reintroduction if that was the decision of the Scottish Government.

"Our work documenting the impacts of beavers on land management interests has shown that in many situations, beavers are likely to cause few concerns.

"But if they were to be permanently reintroduced, efficient, effective and affordable ways of managing and reducing potentially significant impacts on intensively farmed land and other interests would have to be found."

The reports from the study group will be submitted to the government, along with other beaver studies, in May.

A spokesman for Scottish Land and Estates said: "We have been an active member of the Tayside Beaver Study Group and are keen that as much information as possible is available to the government ahead of the decision on the future of the beaver in Scotland.

"We are not opposed to beaver ever being reintroduced to Scotland; we simply want to ensure that any reintroduction, whatever the species, is only progressed after a robust assessment and justification process which ensures a competent decision in which impacts on land management have been fully acknowledged and accommodated.

"Scottish Land and Estates was pleased to host the environment minister on a visit to some Tayside farmers recently to discuss beaver impacts on land management and we are pleased that the report acknowledges that the Tayside population does have an impact and that if they were to be permanently reintroduced, efficient, effective and affordable ways of managing and reducing potentially significant impacts on intensively farmed land and other interests would have to be found."

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10 February 2014

New reports released on Knapdale Scottish Beaver Trial

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Related Internet links

Tayside Beaver Study Group

Scottish Natural Heritage

Scottish government

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