

KEY SPECIES IN THE NATIONAL PARK

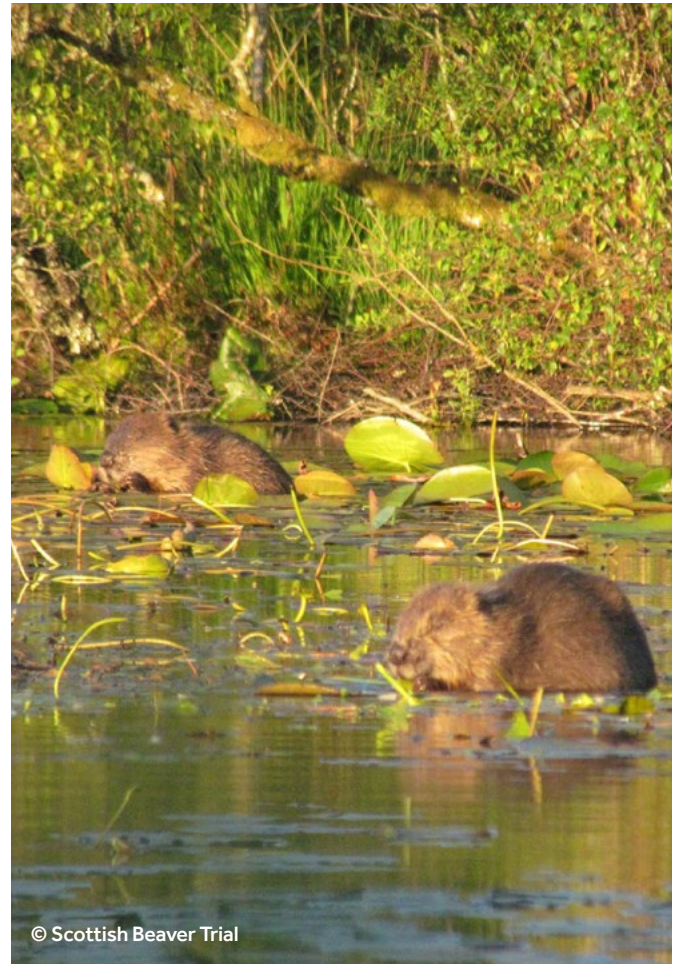
EURASIAN BEAVER

INTRODUCTION

The Eurasian beaver (*Castor fiber*) is a large semi-aquatic rodent, so is related to rats and squirrels! It is the second largest rodent after the South American Capybara.

It lives in woodland or scrub on the edges of standing or slow-moving freshwater and is a herbivore eating the leaves, buds, roots and inner bark of broadleaved trees. It often fells the trees so it can reach the leaves and bark by gnawing through the tree with its incredibly powerful teeth. Beavers also eat grasses, water plants and other herb species.

They live in family groups and will burrow into banks to create chambers. Where this is not possible, the beaver will build 'lodges' out of piles of wood and are well known for their amazing engineering skills! The beaver will sometimes build dams in streams to keep water levels high and will also sometimes build canals as a way of making it easier to travel to and from feeding areas. This engineering can have benefits to many species including amphibians, dragonflies and fish and impact in a positive way on the entire freshwater ecosystem. Beavers can also help reduce flooding downstream and attract tourists to areas where they are present which boosts local economies.



The Eurasian beaver is known as a 'Keystone' species. This means that its presence has a positive effect on the environment around where it lives.

Beavers in Scotland are protected by law as a European Protected Species. This protection came into force on 1st May 2019 which will allow the current beaver population to spread naturally. This was a huge decision that will change wildlife and habitats in Scotland.

HISTORY OF THE REINTRODUCTION OF BEAVERS



Beaver

© Steven Gardner, Scottish Beaver Trial

The Eurasian beaver was present in Scotland and the UK for thousands of years but died out around the 16th Century. It was hunted to extinction for its meat, scent glands and fur. Its fur was very prized as it is so soft, and the scent glands produce a secretion which was used in perfumes and medicines. In May 2009, the Scottish Wildlife Trust, in partnership with the Royal Zoological Society of Scotland and Forest Enterprise Scotland (now Forestry and Land Scotland), released the first wild beavers in Scotland in over 400 years on the west coast of Scotland in Knapdale, Argyll. It was called the Scottish Beaver Trial, and the aim was to help the Scottish Government decide on the future of beavers in Scotland.

In November 2016, the Scottish Government ruled that the trial had been a success and that the beavers could stay in Knapdale for good. More beavers were subsequently released, and the population allowed to expand naturally. More information about the Scottish Beaver Trial can be found on the website.

The first confirmed records of beavers in the Tay Catchment in Scotland were in 2006. It is not known how they got there but it is thought that they were either accidentally or deliberately released as no licence was issued for their release in this area. The upper Tay catchment includes the Rivers Dochart and Fillan both within Loch Lomond and The Trossachs National Park.

Surveys in the Tay catchment have since confirmed that there has been an increase in the number of family groups and that the beavers have spread in range, with animals now being recorded outside of the catchment. The work of the Scottish Beaver Trial, The Tayside Beaver Study Group and a number of other organisations all contributed to the Scottish Government making the decision in 2019 to allow beavers to stay in Scotland and give them the protection they needed.



Tree gnawing

© Scottish Beaver Trial

SCOTLAND'S BEAVER STRATEGY 2022-2045

Scotland's Beaver Strategy 2022-2045 was published in September 2022 and guides the current approach to beaver conservation and management in Scotland. It was co-produced by more than 50 stakeholder organisations and was facilitated by the International Union for Conservation of Nature (IUCN) Conservation Planning Specialist Group (CPSG).

The strategy steers wider efforts to identify and actively expand the population to new catchments, alongside appropriate management and mitigation, following the Scottish Government's change in policy in November 2021 to encourage wider beaver restoration.

It sets out plans to empower and support communities to maximise the environmental and wider benefits of beavers, while minimising negative impacts through effective management and mitigation.

The Scottish Beaver Advisory Group (SBAG) was subsequently established to monitor, review and guide delivery of Scotland's Beaver Strategy. The group has an advisory role in supporting delivery partners. The National Park Authority is a member of the Scottish Beaver Advisory Group.



BEAVER REINTRODUCTIONS IN THE NATIONAL PARK



Following the decision by Scottish Ministers to allow conservation translocations to other parts of Scotland from July 2022, a licence was granted to RSPB Scotland to allow the release a family of seven beavers at Aber Burn in the Loch Lomond National Nature Reserve (NNR) in January 2023. The licensing process had to consider a range of issues including animal welfare, site suitability and potential impacts on neighbouring and community interests.

The proposed release site was found to be highly suitable for beavers, with low conflict potential. It was also concluded that speeding up the natural colonisation process in this location by releasing beavers will help to improve population numbers and genetic diversity, delivering a wide range of benefits for nature in the National Park.

A further 3 beavers were released at the same location at the end of 2023. In 2024, three beavers were released on Forestry and Land Scotland (FLS) land within the Queen Elizabeth Forest Park. This included two animals that had been rescued and rehabilitated by the SSPCA.

Between 1 April 2024 and 31 March 2025, a further 21 beavers were released over four sites on FLS land within the Queen Elizabeth Forest Park. [Watch beaver release here on facebook](#). Aside from the two beavers that were rescued and rehabilitated by the SSPCA, the animals released in the National Park have been trapped and taken under licence from other areas of Scotland where they may be having a negative impact on Prime Agricultural Land and where mitigation measures have not been successful or are not possible.

There is suitable habitat for further beaver translocations into the National Park provided there are organisations, communities and land managers with an interest in hosting beavers. Any further translocations would require to be licensed by NatureScot to ensure that issues such as animal welfare, site suitability and potential impacts on neighbouring/community interests are addressed. In the meantime, the existing beaver population in the National Park will continue to grow and expand naturally. The results of a survey carried out in 2024/25 are to be published shortly and this will confirm the current extent of beaver activity in the National Park.

POTENTIAL ISSUES AND CONFLICTS

Although beavers provide benefits in terms of wildlife and tourism, conflicts with other interests may arise. In some places beavers may flood farmland, gardens or roads. Although they may have potential benefits for migratory fish, there might also be localised negative effects. Sometimes this can be easily managed to prevent damage such as by fencing vulnerable areas or protecting individual trees, and in others there is the potential for more novel techniques. NatureScot provide advice to help people experiencing problems and where possible will help through the beaver mitigation scheme. Information can be found on the NatureScot website.

OUR FUTURE NATURE PROGRAMME AND KEY PRESSURES

What is the future for nature in our National Park? We face a global biodiversity crisis and even in our most special landscapes, nature as a whole is still in real trouble. If we do not halt and reverse this decline, then our world and all of us will have a poorer and more uncertain future.

Our Future Nature programme aims to deliver a positive, exciting vision of this National Park as an exemplar where people can understand, experience and contribute towards a shared vision for restoring nature.

Future Nature

FUTURE NATURE IS CONCENTRATING ON THE FOLLOWING FOUR KEY PRESSURES:



WATER QUALITY

Negative impacts on freshwater and marine water bodies from problems such as pollution from surrounding land uses.



INVASIVE NON-NATIVE SPECIES

The spread of invasive non-native species, which displace our rich native wildlife.



HERBIVORE PRESSURE

Unsustainable levels of wild and domesticated grazing and browsing animals in some upland and woodland areas, leading to reduced tree cover and the erosion of soils, which are important carbon stores.



CLIMATE CHANGE

The impacts of climate change leading to warmer, wetter weather patterns and a subsequent increase in flood events, major landslides and rapid shifts in natural ecosystems.



© Scottish Beaver Trial

As beavers spread in range and increase in numbers across Scotland and through the National Park, they will also become very important in the freshwater ecosystems of the National Park. All four of these threats will impact the success of the continued spread of beaver populations. Conversely, the spread of beavers may have a positive impact on these threats as they are thought to be 'keystone' species.



WATER QUALITY

Pollution from land uses including agriculture and forestry operations will affect the water habitat which will in turn impact on the plant species which can grow in areas of wetland. The condition of the beavers' habitat including trees, plants, and banks of burns or ditches will also have an impact on numbers. Beavers can also have a positive effect on water quality and improve entire ecosystems. Many actions in the Future nature Programme to increase water quality will benefit beavers.



HERBIVORE PRESSURE

Broadleaved trees and other herbaceous plants are important food sources for beavers and for their engineering works to improve freshwater habitats. Sustainable grazing will help improve habitats. However, without appropriate deer management, the presence of beavers could undermine riparian woodland restoration, particularly in areas where restoration efforts to date have been minimal.



INVASIVE NON-NATIVE SPECIES

Non-native invasive plants such as Himalayan balsam and Japanese knotweed will out-compete native plants which the beavers feed on. However, beavers feed on a wide range of plants *including* invasive non-native plant species such as Japanese knotweed and Himalayan balsam. Therefore it may be possible that their feeding activity (through disturbance, cutting and spreading of fragments) may spread non-native species. This is yet to be confirmed. ([See Case Study – Invasive non-native species](#)).



CLIMATE CHANGE

Climate change will have an impact on the wildlife and ecosystems in the National Park including beavers. It is the single greatest threat to Scotland's habitats, some habitats will be directly affected but more often, climate change will alter the ecological balances that let plants and animals grow and thrive such as the wetland habitats where our beavers live. Beavers may help to mitigate some of the effects of climate change by reducing downstream flooding.

MITIGATING AGAINST CLIMATE CHANGE

It is predicted that in the future typically the summers will be hotter and drier, and the winters and autumns will be milder and wetter. The hotter weather in the summer will mean water levels may fall, banks may dry out and vegetation growth will also be affected. In the autumn and winter, water levels may rise with flooding occurring more frequently. All these changes in the climate will affect the habitat and the beaver's ecosystem. We need to ensure that ecosystems in the National Park can withstand the effects that climate change is bringing to our native biodiversity and wider environment.

These ecosystems can also help mitigate climate change by maintaining carbon stores, storing carbon and surface water. Beavers can help us build landscapes that are more resilient to climate change though as their wetlands can reduce the risk of drought and flooding downstream as well as potentially helping us limit the spread of wildfire. The National Park's peatlands hold an estimated 20 million tonnes of carbon, and our forests hold another 2.5 million tonnes. Restoring peatlands by blocking drainage ditches and covering bare peat will not only store carbon, but will also hold onto water for longer, preventing flooding downstream. Planting trees upstream in our upland areas can also help reduce flooding. Many of the actions in our Future Nature Programme will help reduce climate change.



Current research into the role that beavers can play in helping us tackle climate change creates a complex picture with estimates ranging from beaver wetlands being viewed as carbon sinks to carbon sources.

By transforming dry areas into wetland through damming, beavers increase the amount of carbon that can be stored but the area's rewetting also results in methane being released into the atmosphere. Unmaintained beaver wetlands which return back into a dry state will release the carbon that was previously stored while it was a wetland.



© Steven Gardner, Scottish Beaver Trial

QUESTIONS AND PUPIL ENQUIRY

- What may cause species to become locally and nationally extinct?
- What is a keystone species?
- List two reasons for the decline of beavers across the UK
- When did beavers in the UK become protected by law and under what law are they protected?
- How may climate change affect beavers in Loch Lomond & The Trossachs National Park?

FURTHER READING

Online

- [Read more about Future Nature and the four key pressures to wildlife](#)
- [NatureScot information about beavers and their protected status](#)
- [Report a beaver sighting](#)
- [Beaver Trust Education Hub](#)
- [NatureScot Beavers and a shared approach to wildlife management](#)
- [Beaver Trust Education pages – Discover resources and activities](#)

Video clips

[Beavers in the National Park](#)

[Beaver release project](#)

[Beaver restoration and migratory fish documentary](#)

Podcasts

[Beavers in Scotland: learning to live with nature's engineers](#)

Site visits

- Beavers are nocturnal, so you are unlikely to see them. However, keep your eyes open for signs that beavers are present by looking out for signs they leave behind, such as gnawed wood and felled trees.