

Our position on ...

European beavers and the Eden catchment



15 May 2019

Eden Rivers Trust (ERT) is committed to creating a Healthy Eden for All. As part of achieving this vision, we undertake river restoration and natural flood management projects that improve and protect the River Eden, its tributaries and lakes for the benefit of people and wildlife.

We work to reinstate and improve the natural process of rivers, therefore we recognise the potential ability of beavers, as ecosystem engineers, to restore the natural function of rivers, improve biodiversity and the benefits there may be for natural flood management.

The European beaver, *Castor fiber*, was found throughout England (including Cumbria), Wales and Scotland, and is thought to have been hunted to extinction by the mid-16th century. The Department of Environment, Farming and Rural Affairs (Defra) is committed¹ to providing opportunities to reintroduce native species that we have lost from our countryside, including the beaver. Defra states that their reintroduction, when carefully planned and managed, can enrich our natural environment and provide wider benefits for people.

Based on the evidence so far, ERT believes beavers do have a role to play in rivers in Cumbria. However, reintroducing beavers is not without its challenges such as understanding potential adverse impacts on the environment and other iconic species and balancing the opinions of different stakeholders. There is a need for more evidence on the impact of beaver reintroduction, especially in an upland environment.

There is a proposal for an enclosed beaver trial to take place in the Eden Catchment at Setterah Park on the river Lowther (led by Lowther Estate). ERT is currently working closely with Lowther Estate and Natural England on a nearby, separate river restoration project at Setterah Park hence our particular interest in the trial at this site.

ERT is part of a group of organisations who are working together to support and inform trial enclosed releases of beavers in the county of Cumbria, to educate the public about beavers and, pending a ministerial decision regarding the future status of beavers in England, to promote sensible strategies for beaver management in the longer term.

ERT supports the *development* of enclosed beaver trials in Cumbria.

¹ *A Green Future: Our 25 Year Plan to Improve the Environment (2018)*

ERT will:

- help to ensure that any trials provide the scientific evidence needed to determine whether or not beavers have a positive role in improving natural river processes in the Eden catchment
- Support the integration of full stakeholder consultation on the trial
- Review our position on whether or not the trial should go ahead at each major step of the process by working with the group to objectively assess the project against Exit Strategy triggers that will be developed

ERT's decision on supporting the *implementation* of the trial will be made as part of the review process.

Turn to the next page for FAQs and a fact file about beavers

FAQs

What impact do beavers have on the environment?

Beavers modify the habitats and landscapes they live in. In the first instance, these changes can markedly alter the appearance of the local environment but literature indicates a positive overall ecological functioning of catchments and river systems.

Beaver adaptations can bring enormous benefits to other species, including otters, water shrews, water voles, birds, invertebrates - especially dragonflies, and breeding fish. Beavers naturally create and maintain diverse habitats providing catchment resilience and climate change adaptation. Their dams can hold water in periods of drought, can regulate flooding and improve water quality by holding silt behind dams and catching acidic and agricultural run-off.

Beavers forage close to water with activity usually concentrated within 20 metres of the water's edge. Beavers fell, primarily broad-leafed trees and bushes in order to eat the bark during the winter and to construct their lodges and dams. Most trees coppiced by beavers will regenerate, diversifying the surrounding habitat structure.

Beavers, in some locations and circumstances, require direct management intervention by man. A range of mitigation and management techniques are available such as overflow piping on dams, electric fencing and wrapping of trees in wire mesh. Beavers rarely eat conifers, although the odd conifer might be gnawed by an immature animal that has not learned that conifers are unpalatable and that its resin gums up their teeth. They generally do not live in water entirely surrounded by conifers.

Do beavers cause damage to farmland and the wider countryside?

Evidence from Europe shows that shows that beaver damage is, in the vast majority of cases small-scale, but they can forage crops close to rivers, cause bank erosion and collapse, and localised flooding. Beavers are not regarded as pests in Europe and where localised problems have occurred, there are a number of well-established management methods in place. These include the removal of dams, the introduction of overflow piping, or the installation of fencing (as one does for deer and rabbits).

Do beavers pose a flooding threat?

In general terms, beavers can actually help reduce the risk of flooding lower down in river systems by building dams and moderating water flow. The modifications made to the streams can raise the water table locally, creating wetland areas to the benefit of biodiversity. Evidence from elsewhere in Europe shows that instances of beaver dams creating undesirable flooding are uncommon, localised and usually small-scale. In these situations, dams are may be removed or pipes ('beaver deceivers') are placed through them to manage water levels.

Do beavers eat fish?

No. Beavers are completely vegetarian. Beavers eat woody plants and bark, aquatic plants, grasses and shrubs.

Do beavers affect fish species?

Beaver activities may have both positive and negative impacts on different fish species. Understanding the overall impact is complex. Beaver dams in some locations and circumstances may act as barriers to migratory species such as salmon and change riverbed habitats. On the other hand, positive impacts may include an increase in habitat variability for fish rearing and overwintering, an increase in refuge areas during high and low flow periods and an increase in aquatic invertebrate prey species. Furthermore, beaver dams can help improve water quality downstream of the dams, which can benefit fish.

What impact do the beavers have on water quality and hydrology?

Research suggests that ponds and water pools created from beaver dams can have marked benefits on local water quality. The ponds can help to neutralise acidic run-off, act as sinks for pollutants and increase the self-purification of a watercourse. They can form considerable sediment traps, reducing very strongly erosive runoff and particulate loads in downstream water.

What evidence is there that beavers ever lived in Cumbria?

A Vertebrate Fauna of Lakeland by Macpherson Rev. H. A., 1892, indicates beaver remains found in the Rossendale Valley. (The book says Ressondale but it is generally assumed that this refers to Rossendale). This is indicative of a more widespread distribution.

Do beavers carry disease?

Beavers can carry host-specific parasites not currently present in Britain, though these are not known to infect or harm other species of wildlife, livestock or humans. Other parasites carried by beaver are already present in British wildlife, livestock and humans and these other sources of infection pose a more significant risk to water contamination than beavers.

Do you want to see beavers in Cumbria?

The proposed trial release, along with other trials around the country will feed into the development of government policy for beavers in England in the longer term. Depending on the outcome of these trials, ERT will advocate that any reintroduction is well planned, well managed and has the support of the local community.

There are already a number of enclosed trails taking/ have taken place in the UK. What extra learning can you achieve from yet another beaver trial?

If it goes ahead this trial will look specifically at how beavers fare in an upland environment.

Any enclosed trial in Cumbria will contribute to the English Government's understanding of beavers and would play a role in its decision making around granting licences for free-living beaver releases in the future.

Defra and reintroduced species

In Defra's (Department for Environment, Food and Rural Affairs) A Green Future: Our 25 Year Plan to Improve the Environment (2018), there is a commitment to providing opportunities for the reintroduction of formerly native species from England - such as the white-tailed eagle, the orange-spotted emerald dragonfly and the beaver. The Plan states that their reintroduction, when carefully planned and managed, can enrich our natural environment and provide wider benefits for people.

Natural England will continue to work with partners and local communities on species reintroduction and recovery projects that support nature conservation and help towards meeting economic and social goals.

Additionally, Defra will develop a code, building on the International Union for Conservation of Nature's (IUCN) guideline 18, to make sure proposals provide clear economic or social benefit and are alive to any risk to public, the environment or to business.

Beaver fact File

History

British Eurasian beavers (*Castor fiber*) were hunted to extinction for their meat, pelts and scent glands. The beaver pelt was highly prized because of the quality of the fur. The last beavers disappeared from England and Wales by the 12th Century, but populations in Scotland held on until the 16th Century.

They were also widespread in Europe but by the 19th century only a few pockets of them remained.

Appearance

Eurasian beavers usually weigh between 16–30kg, measuring 60–90cm in body length, with tail lengths of 20- 35cm.

Beavers are uniquely adapted for a semi-aquatic lifestyle, with a sleek waterproof coat, large flattened muscular tail and webbed hind feet to provide propulsion underwater.

It is hard to tell the sex of a beaver from its appearance. Unusually for mammals, female beavers are the same size or slightly larger than males of the same age.

Habits and habitat

Beavers are highly territorial and live in family groups.

They live in lodges, these are usually earth burrows, but if these aren't available they will build stick lodges.

Their territory is around 3-5 km but varies hugely depending on available food source, other territories and the shape and size of the river.

Beavers are crepuscular, meaning they are most active at dawn and dusk throughout the year and do not hibernate.

Beavers can live up to 25 years in captivity, but do not usually live as long in the wild.

Beavers are well known for their construction skills. They tend to build dams when their habitat does not provide all the conditions suitable for a beaver's needs. Beavers feel safe with water around them and so to ensure their safety, a beaver may construct a dam in order to create deeper ponds on which to build their lodge, and/or to enable water access to food resources.

Breeding

Beavers are thought to be monogamous which means they mate for life or until their partner dies.

A breeding pair can produce 2-4 kits per year. Mating takes place between January and February, with kits born within the lodge from April to June (gestation of around 105 days).

Other family members may bring vegetation to the lodge for kits to feed on during this time. Kits are usually weaned after 2-3 weeks and soon emerge from the lodge to feed with their parents.

Offspring will remain with their parents until they are around 2 years old. Around this period they become sexually mature and leave to find territories and partners of their own.

Feeding

Beavers are completely vegetarian. They do not eat fish but instead prefer to munch on aquatic plants, grasses and shrubs during the summer months and woody plants in winter. They will often store food underwater as a hidden store.

Beavers in Britain today

Licensed, free-living beavers first returned to the UK in 2009 with the Scottish Beaver Trial in Knapdale Forest, Argyll. In November 2016 the Scottish Government announced that the beavers could remain and expand naturally from Knapdale and a population on the River Tay, marking their formal reintroduction in Scotland. As of 1st May 2019, beavers are now a protected species in Scotland.

There is one licensed free-living beaver trial in England on the River Otter in Devon, which concludes in 2020. The Government has indicated it will then make a decision about permanent reintroduction in England. There are also a few other enclosed trials, as well as many in development in England.

Beavers have already been reintroduced to 27 European countries.



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