

Overview of site and beaver behaviour

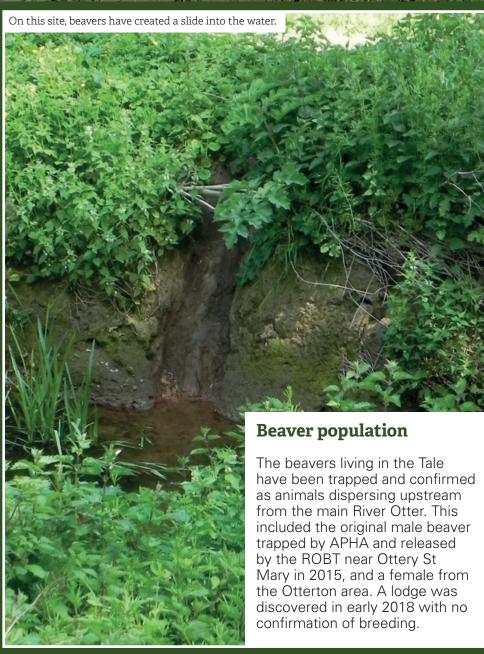
This case study provides a good example of the impacts of beavers on land located in the middle reaches of the catchment, which is intensively farmed and agriculturally productive. The farms are characterised by deep, fertile, floodplain soils which are extensively under-drained.

Beaver dams were built instream during low summer flows, enabling beavers to access riverside maize crops. This also temporarily raised water levels, impacting on land drainage in low-lying floodplain pasture.

A difference of opinion between neighbouring landowners regarding the activities of the beavers (both for and against) and their impacts led to disagreement about potential solutions.

The ROBT team worked closely with all parties to resolve potential conflicts successfully, highlighting the crucial role of expert advisory support and ongoing solutions-focussed dialogue.

The ROBT removed the beaver dam on a number of occasions until the maize was harvested. Electric fencing was erected by the ROBT which successfully discouraged further feeding.



Impacts of beaver behaviour in an intensively farmed landscape

The ROBT first confirmed the presence of beavers in the midreaches of the River Tale in 2015 through routine surveys of feeding activity. In 2017 the Trial confirmed beavers had subsequently established a territory in the area.

Although the owner of the land where the dams had been built was supportive of the beavers' activity, a number of neighbours were concerned about elevated water levels and had initially removed a dam.



Impounded water caused silt to be deposited in a drinking bay that had been constructed to restrict cattle access to the river.

The low-lying floodplain and interconnected nature of the drainage channels meant a range of local residents and farmland owners were concerned about potential impacts arising from beaver activity. There was a risk that differences in opinion, and levels of understanding regarding beaver behaviour, would lead to disagreement and potentially conflict.

Two evening meetings were initiated by the ROBT with a group of neighbouring landowners from the area to ensure clear channels of communication were maintained and concerns were properly understood and documented. The ROBT explained what interventions could be taken to resolve potential beaver conflicts.

Intensive action from the ROBT Field Officer was provided to monitor and manage beaver activity. Volunteers also provided support by regularly walking stretches of riverbank to check for signs of fresh activity and helped protect trees by applying a latex and sand mixture to deter beaver gnawing.



Sometimes the trackways through the maize reach as far as 40 m from the water. An area of approximately 15 $\rm m^2$ was impacted, which based on the John Nix pocketbook¹ would have a value of £1.33.



In order to minimise the risk of machinery collapsing undetected beaver burrows, it was suggested a buffer strip of 5 m width, 50 m length be left unharvested against the stream (marked with flags). This would represent a profit foregone of £22.10¹.

Beavers and maize crops

Riverside maize appears to attract beavers. There is evidence of them feeding on this crop in late summer – sometimes some distance from the water. Dams appear to have been built during this period to access the crop during low flows, and burrows have also been detected in one area.





Volunteers protecting trees

Volunteer support for management

A small group of volunteers have been recruited to assist with occasional tasks such as protecting important landscape trees, and regular monitoring of beaver activity. The training, management and supervision of volunteers is initially time consuming, but over time could be a more sustainable model for managing conflicts.

Landowner perceptions

"In terms of the impact, we are very relaxed in terms of that bit of land. [...] It's an area that I want to let go wild as much as it wants to and so I'm not bothered in terms of what they've done."

"There shouldn't be an assumption that we will give up our time for free. It's been us who are walking up and down the riverbank and monitoring the activity."

"We love it, so I'm very happy to go down on a Sunday morning and spend half an hour pulling a dam apart, but I understand that there's a lot of people that would probably be happy for the beavers to continue but they don't want to have to do stuff to make it happen."

"I don't want to sit and listen to someone telling me about how great beavers are when I'm concerned about my land."

"I believe that they could have a very important role to play in terms of flood alleviation. But that does mean that people upstream of population densities need to be prepared for the fact that their fields may get flooded as a result. I think that that's where the government, if they're serious about this, as part of the 'public money for public goods'. [...] I personally believe they are a part of a longer term solution."

"The landowner shouldn't have to take [management] responsibility."

1. Redman, G. *The John Nix Pocketbook for Farm Management 2019*. (Agro Business Consultants, 2018).