Balbirnie River Restoration
Realigning the Back Burn to its Natural Channel

What is being proposed?

The Back Burn has seen many changes over time due to its industrial heritage. Such changes have unfortunately impacted the health of the burn and surrounding environment. Historical modifications include artificial bed and bank protection, channel straightening and a series of weirs that pose barriers to fish migration.

In Summer 2025, restoration works were completed at Coul Den, as part of the wider Back Burn River Restoration project. Works to improve riverbanks and to remove some weir structures through Balbirnie Park will be taking place in spring/summer 2026. There is now an additional opportunity to restore a 300m section of the Back Burn to a more natural state through Balbirnie Park. This straightened section of the burn would be moved back to its natural location, diverting it around a large weir that is currently a major obstacle to fish. Sections of stone and gabion (wire baskets with stones) in the current, man-made channel are currently preventing the river from meandering and hinder plant growth along the river banks. The new line of the burn would have naturally vegetated banks, and would flow through the wildlife pond in Balbirnie Park, improving and connecting this habitat with the surrounding freshwater environment.

See visualisations on following pages showing how the proposed works could look.

BEFORE – Current view of historic burn channel

AFTER – Burn realigned to its historic channel and re-routed around the weir

BEFORE – Disconnected and isolated wildlife pond

AFTER – Wildlife pond with fresh flowing water and habitat connectivity

What are the benefits?

River restoration projects bring a wide range of nature, community and climate resilience benefits.

Nature

The Back Burn is home to a population of native brown trout, but the extent of the habitat they can move through is limited by man-made structures in the channel. The weir that currently sits between the two footbridges in Balbirnie Park has been identified by ecologists as a barrier to trout migration, and therefore limits the amount of food available to them and gravels for spawning. Some fish might manage to move up and down, but the weir is significantly limiting this movement.

Rerouting the burn around this weir, in conjunction with the works being undertaken upstream, will allow brown trout and other fish to move much more easily through a greater length of the burn, expanding their habitat. This will benefit the fish population as well as other wildlife that rely on them along the Back Burn, including heron. Realigning the channel to its natural course will also allow the river to flow and meander effectively, creating pools and riffles and areas of shade which all provide diverse habitat for fish and freshwater invertebrates and help the river to transport sediment naturally. There are records of kingfisher and otter recorded nearby, so these changes would improve food sources and habitat for these species and attract them to the area.

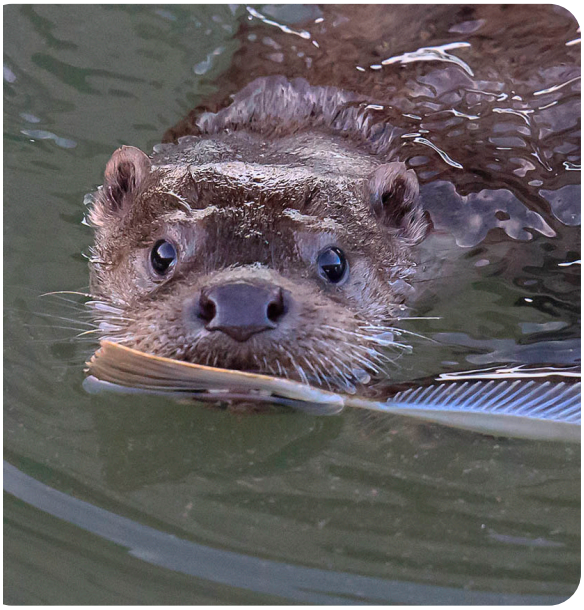

Figure 1 - Otter have been recorded close to Balbirnie Park and could be encouraged to inhabit the area through improving the river habitat

Additionally, the proposed route for the realigned channel would connect the burn with the nearby wildlife pond, creating greater habitat connectivity for wildlife to move around, and creating a flow of fresh water through the area. This will also make the pond more resilient to potential droughts in the future.

Community

This project provides an opportunity to bring investment into a much-loved local area. Opportunities for community benefit include expanding picnic areas and amenity features, improving paths and footbridges, creating new wildlife areas for locals to explore, and providing an attractive and better connected river and woodland landscape within the park for all to enjoy. The community will be invited to inform the placement and design of amenity features such as benches, bridges and artworks.

Climate

Rivers that are restricted to straightened, man-made channels often experience worse flooding and erosion issues. As climate impacts develop over the next few decades, flooding is likely to become more spontaneous and severe. A natural or restored watercourse has more resilience because it can move naturally within its channel rather than being constrained by concrete walls and gabions. The realigned channel proposed here would meander naturally through the existing woodland, allowing flood waters to fill the natural floodplain and interact with the shrubs and trees, to help to slow the flow of the water during times of flood. The realigned route would also intersect less with footpaths/bridges, meaning that people's access through Balbirnie will be less impacted during times of flood. Where the burn will still intersect with the paths, sustainable and resilient crossings will be installed.

How do we know about the original channel?

We know from historic records that the Back Burn had been modified and straightened through Balbirnie Park, but detailed historic maps don't go back far enough to show where this change occurred. A team of river morphologists and ecologists visited the Back Burn on several occasions over the past few years to investigate opportunities for restoration, and they discovered a dried-up riverbed running through the woodland to the north of the modified channel. When conducting a topographic survey, the team found that this dry riverbed is at the 'topographic low' of the valley, meaning the lowest point in the valley where water would naturally accumulate in a river. This confirms the newly discovered riverbed is actually the historic channel where the Back Burn would once have flowed.

BEFORE – A natural low point in the floodplain where the Back Burn would have flowed historically

AFTER – The re-aligned burn flowing in the natural channel once again, and a wetland scrape added for overflowing water and rainfall to collect.

Will the construction work disturb local wildlife and community access?

Qualified ecologists and fish specialists have recommended mitigations to minimise any disturbance to wildlife. We will work in the river between May – September to avoid disruption to fish breeding cycles, and rescue fish from sections of the river that will dry up and move them into the new channel.

This area has a tree protection order in place, so tree removal will be kept to an absolute minimum and any trees that need to be felled for the works must be approved by the Fife Council beforehand, and will be replaced following the project. An Ecological Clerk of Works (ECoW) is also involved in the construction phase to monitor the ongoing works and ensure all ecological aspects of the site and works are considered on a day-to-day basis.

Community access must be managed carefully during construction for safety reasons, and there may be path closures throughout the working window of May – September 2026. All paths will be restored and improved wherever possible to reinstate public access to the same or better condition.

Will this affect the 'Designed Landscape' designation of Balbirnie Park?

Balbirnie Park is currently designated as a 'Designed Landscape'. Historic Environment Scotland have provided the following reassurance that this designation will remain in place:

"The realignment proposals would not affect Balbirnie Park's designation as an Inventory Garden & Designed Landscape. We consider that the proposed changes to the alignment of the Back Burn would not have a significant negative impact on the Inventory site. While the proposals would be a change, it would not have a significant impact on the key features, areas of contrived character or important views which contribute to the cultural significance of Balbirnie Park."

As such, there is very low risk that the realignment work would result in removal of this designation or opening the park up to development in the future.

Who is involved and where is the funding coming from?

This project has been commissioned by Fife Council and the Scottish Environment Protection Agency (SEPA), supported with funding from SEPA's Water Environment Fund (WEF). The Water Environment Fund works with partners throughout Scotland to improve rivers and have selected the Back Burn as huge benefits can be made for the river, wildlife and people. The funding made available for Balbirnie Park through the realignment and river restoration project may attract match funding to increase investment in the area.

Fife Coast and Countryside Trust (FCCT) are managing the project on behalf of Fife Council and are working with sustainable river restoration specialists CBEC eco-engineering (leading on design). McGowan Environmental Engineering are the contractors appointed to deliver the groundworks. This work is delivered in conjunction with other initiatives in the Leven Programme, which included the completed River Leven restoration project in October 2024 and The Back Burn flowing through Coul Den in October 2025, both of which have involved the CBEC and McGowan teams.

What are the next steps and time frames?

The Balbirnie restoration works are planned for Summer 2026 between May and September. The plans have been submitted to the Council's planning team who will determine whether planning approvals are needed. In the meantime, FCCT will engage with the community through a series of events at Balbirnie Park to ensure feedback on the plans are heard, and the community has the opportunity to be involved in the future of Balbirnie Park.

Please contact FCCT's River Restoration Project Manager with any questions – madeleine.deacon@fifecountryside.co.uk.

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Fife Council

sepa

Fife Coast & Countryside Trust

wef Water Environment Fund

The Leven
Growing with the Flow