

Bowston weir removal project

The River Kent is one of 3 major rivers draining the Lake District, NW England. It is a Site of Special Scientific Interest and Special Area of Conservation but has suffered from over 150 years of human modifications. Consequently, many river Kent SSSI units are now in unfavourable condition. Natural England investigations identified Bowston weir among a list of 14 weirs considered as priority for removal to achieve the objectives of restoring natural river processes, improving fish passage, reducing flood risk and to contribute to a potential improvement in the “Unfavourable” status of the SSSI river unit in which it sits.

South Cumbria Rivers Trust commissioned a feasibility and options appraisal and in conclusion, only full removal of the weir would achieve the necessary restorative objectives.

The Bowston weir removal partnership was formed from SCRT’s role as lead partner, for the river Kent, within the wider Natural England and Environment Agency led Cumbria River Restoration Strategy. The 37m wide 3m high weir (originally associated with milling) became redundant in the early 1960’s.

This project developed in the knowledge that no one had previously proposed a major weir removal on this highly protected and energetic river and opportunity to open discussions with the weir owner, a large local paper making business, began in 2016 following failure of the weir sluice gate. However, the weir owner was initially very reluctant to engage with us but with perseverance we eventually obtained an Agreement in Principle to its removal. in 2019.

Highly significant in this weir removal proposal arena was the proximity of the community living immediately alongside and overlooking the weir; this framed our approach at outset to be rigorous, open and transparent.

Engagement was seen as crucial and a “Local Community Engagement Plan- Bowston weir removal proposal” (LCEP) was developed, aided in its drafting by a resident and Parish Council representative acting as a “critical friend”. This provided the framework for our engagement activities throughout the removal process, ensuring a standardised approach to the plethora of communications with local stakeholders and the general public. This included non-technical explanations of flood reduction impacts, question and answer documents, public meetings, visualisations of what to expect and regular updates about the process during planning, mobilisation and removal. All in all, we provided over 60 engagement communications/activities.

While public engagement was very strong, we met determined and coordinated opposition from residents and the Parish Council. The Parish Council in their Local Planning Authority statutory consultee capacity ultimately objected to the removal. However, science, expert opinion and evidence of benefits eventually led to Planning Committee approval and subsequent removal.

The NE/EA Cumbria River Restoration Strategy funded all aspects of feasibility, design and project management work. The removal was funded by the European Agricultural Fund for Rural Development.

Removal was achieved in the summer of 2022 representing the first major weir removed on this protected river and one of the largest removed in England.

Monitoring since the works were completed has recorded that morphologic and associated habitat functioning and diversity has increased dramatically over the conditions seen when the weir was in place. Stored sediment is slowly being released from behind the old structure allowing morphological development to progress downstream further improving the condition of the watercourse over a longer reach.

A DEFRA Morph V3 survey pre removal predicted a 44% Biodiversity Net Gain and post removal we are witnessing these uplifts. Further slow release of material will sustain these features into the future augmented by a rejuvenated supply from upstream. As anticipated, riffle/rapids have become exposed upstream to form a functioning pool/riffle/rapid sequence with associated hydraulic and sedimentological diversity. New bar and riffle units have developed downstream creating new spawning habitats. Previously submerged, inaccessible banks are now exposed as clean gravel bars which are now regularly used by walkers to visit the riverside. We expect this will attract swimmers and picnickers in future summers. We expect paddle sport users to utilise the site as they no longer need to portage around the weir. We have also received positive comments from anglers and the wider riverside community and it is hoped that the positivity expressed will be used to advocate for other weir removals.

This project has clearly realised the value that local communities place in what they already have and of their reluctance to accept change despite the wealth of evidence identifying overall gains in terms of flood risk, ecology and aesthetics. The regulatory and planning process was rigorous and competing interests made consensus difficult to achieve on many occasions. The lack of governmental support for this work in terms of a national initiative centred around barrier removal has made the task of removal much harder with local interests able to derail projects. Delivery involved quite innovative approaches and gaining acceptance of these from regulators required much work.

The removal of Bowston weir evidences unimpeded migration, unconstrained river dynamics, flood benefit, improved navigation and a 44% Biodiversity Net Gain. It is now an improved riverscape.

As the forerunner of major weir removals for this river, it is perhaps the beating of a new path through our local planning and community circles, and the learning derived from it, that will be Bowston's greatest legacy. For the first time there now exists a physical and local demonstration of all the benefits that can be achieved with a weir removal. We hope to use this positivity to nurture wider support for further opportunities. Never has this been so relevant and poignant for us all amid the climate and ecological crises we face. It is a simple message; it is possible, it can be done, and the benefits are big.