



Hawick Flood Protection Scheme



Why not remove the gravel?

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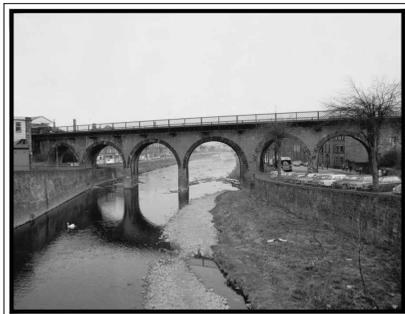
A major point for debate in the design of a Flood Protection Scheme is whether or not removal of gravel will reduce flood risk. This board specifically deals with the various issues surrounding gravel removal on the River Teviot through Hawick

1) The rate of gravel build up

It is commonly thought that the level of the bed of the River Teviot through Hawick is continuing to rise as a result of a continuing build up of gravel over time. It is true that in certain areas, the quantity of gravel is accumulating – this can be observed just below the Coble Cauld and at the site of the former Weensland cauld. However, such deposits of gravel are not new – compare the following images which clearly show that gravel historically built up in locations where there is currently no build up of gravel.

The formation and removal of gravel islands is a natural process which has been balanced out by nature over thousands of years. What we see today in Hawick is the continuation of a natural process which has only relatively recently been influenced by mankind.

However, in many locations, the quantity of gravel has remained similar, or has even reduced with time - refer to the photos below which are taken from the North Bridge / Mart Street bridge as an example.



1972 - Looking downstream from North Bridge



2011 - Gravel bank on right hand side has not increased



Typical Gravel Source on River Teviot

2) Reducing the flood risk

The removal of discrete gravel islands such as those at the Coble Cauld will only make a very small difference to the flood level.

We have calculated that at the 1 in 50 year event the flood levels just downstream of the cauld would be reduced by just 50mm. Indeed, by removing the gravel, there is a risk that flood levels downstream of the cauld may increase slightly.

The only way that gravel removal could actually make a tangible difference to flood risk during moderate to major flood events is to remove significant depths of gravel over the whole channel width and over the entire length of the Teviot from Langlands bridge to the SBC depot and recycling centre.



Coble Cauld gravel island



Mansfield Road gravel island



Albert Bridge gravel island

3) Why not remove it?

There are numerous reasons why the large scale removal of gravel is not a good idea for inclusion in the Flood Protection Scheme:

- The volume of gravel requiring to be removed is of the order of 200,000 tonnes – that is 10,000 six wheel tipper trucks on the local roads.
- The cost of removing this material is estimated at £2 million.
- With time, the gravel will naturally fill in this large void – it is possible that the gravel islands will have returned within five to ten years, depending on the number and severity of flood events over that period.
- The purpose of a formal flood protection scheme is to provide a permanent and quantifiable means for reducing flood risk over a long period of time (typically 100 years) – gravel removal is only permanent and quantifiable for a week at the most.
- The gravel removal would potentially affect the habitats of fish and other aquatic creatures, with knock on effects up and down the food chain.

4) Small scale gravel removal or regrading is ok

It is a common misconception that no-one is allowed to remove gravel from the watercourses. Under carefully controlled conditions, some localised gravel removal is permissible, if it can be demonstrated that there is no satisfactory alternative. It is possible that some regrading of the Coble Cauld gravel island could take place to reduce the risk of further erosion of the bank next to the Common Haugh car park footpath.



Coble Cauld possible regrading location