

Letter received from Anne Ball - Customer and Engagement Officer
Cumbria and Lancashire + Greater Manchester, Merseyside and Cheshire

Email: nwinforequests@environment-agency.gov.uk

in reply to Giggleswick Parish Council's enquiry to the Environment Agency dated 24 July 2014.

We respond to requests under the Freedom of Information Act 2000 and Environmental Information Regulations 2004.

With regards to the publication by Mr. Paul Bradley, one of our officers recently visited Tems Beck with Neil Handy in her capacity as an area geomorphologist.

Her findings largely concur with Paul's assessment and she thinks he has summarised the ecological situation very well. She has added a few points below which you will hopefully find useful.

The watercourse is non-main river meaning the Environment Agency are not required to maintain it, nor are we the competent authority who would deal with any applications to do works on it. This lies solely with NYCC who would consent any activities under the Land Drainage regulations. However, given the high ecological interest noted by Paul and the presence of endangered species we would welcome consultation from NYCC if any works were planned. Unfortunately, this is low priority work for us, due to it being non-main river so any involvement we have will be subject to other workload pressures.

The heavily modified nature of the channel has resulted in an unnatural cross section which is over wide particularly in relation to summer flows. There is a very shallow gradient in some places which creates ponded flow. There will always therefore be a tendency for part of the channel to silt up and become vegetated as the stream seeks to balance the dominant sediment and flow patterns operating. The beck appeared to be recovering well from the past problems Paul has mentioned. In places where the channel had been narrowed by Ranunculus growth, flows have been able to scour the bed clean of fine material revealing small gravels which would be typical of the bed sediment of streams in this area. Therefore, what some would term the overgrowth of Ranunculus has in fact aided the hydromorphological recovery of the beck by helping to form a channel width appropriate to the flow regime in Summer.

Any vegetation/silt or mud clearance would increase the tendency for the stream to deposit further fine sediments because a wider cleared channel would spread flows and reduce the energy available to keep fine sediments in suspension and they would drop out. This would halt the localised recovery of the bed sediments where a preferential low flow channel has developed. Such removal would likely be required every year and would constitute an unacceptable disturbance to the ecology found here.

The concern comes from residents on the left hand bank who are worried about the effect perceived overgrowth has on channel capacity during times of flood. Without a flood risk assessment and detailed survey of the channel, no firm conclusions can be drawn. However, the most significant limiting factor on channel capacity through the village appears to be the numerous small bridges. These act as pinch points which bottleneck flow and back it up and would continue to act in this way regardless of how much Ranunculus is in channel.

The flooding issues experienced along the left hand bank are due to locked surface water drains which are unable to discharge during elevated flows. Residents expressed concerns to us on site that the overgrowth of Ranunculus was raising river levels on their side and

exacerbating this problem. The only solution we can proffer to this is to try to manipulate the preferential low flow channel such that it scours along the left hand bank and therefore keeps the drain outlet points clear. Localised removal of sediment and vegetation could be permitted however, it is unknown how effective a solution this could be given the low level of the drains and the tendency for flow to back up from pinch points.

In terms of the future development of the beck, it is likely in places that silt banks where there are extensive Ranunculus beds could build up a permanent vegetation cover becoming a vegetated side bar or berm. This would no doubt alarm residents who would see this as a permanent reduction in channel capacity but as stated above, the pinch points will remain the limiting factor on flows escaping the village. As the floodplain through the village has been historically built upon, during some elevated flows, it will be difficult to avoid some flows escaping the channel in places where walls are low enough to allow this. Despite this, our flood maps show limited flooding through the village below and immediately adjacent to Station Road which appears to be caused by high levels in the Ribble backing up flow from Tams Beck.

Yours sincerely,

Anne