

Report of Visit to Latchmore on 6th June 2012

1. Five representatives of FoL walked Latchmore Brook with eleven representatives from Natural England, Forestry Commission, Environment Agency and the National Park Authority. They were accompanied by a senior hydro-geomorphologist from Southampton University, Professor David Sear, who had been asked to provide an independent view of what should be looked for in any proposed restoration. The visit was concerned with the hydro-geomorphology of the stream, and ecological aspects were not discussed in any detail on this occasion.
2. The group first visited the outlet channel below the Thompsons Castle mire, observing the points where previous restoration had been attempted (with little success). There are signs of erosion at these points in the valley mires, which would probably benefit from some intervention, but as the work undertaken 13 years ago had not worked, any further intervention now would have to be carefully thought through and justified in the light of what it was hoped to achieve, which has not yet been clearly stated. The deepened channel below the stock crossing and path is showing classic signs of bank collapse in places, but any infilling would have to take account of the heights of the ground around the crossing. Lower down there are signs that the channel is already stable
3. At the junction with Latchmore Brook, the alterations to utilise the paleomeanders (*abandoned meanders of indeterminant age*) to the south are complex. Latchmore stream, at this point, is already well established in the channel. Before any changes are made, it should be established what frequency of flooding is targeted.
4. At the Shade and looking upstream the lack of tree cover is seen as creating unnatural conditions for Forest streams and likely to be particularly detrimental to fish and invertebrates with higher water temperatures in unshaded sections. The removal of major tree cover along the length of the Brook over the past 12 months will have a significant impact on all forms of fish, invertebrates, and bird life.
5. The existing stream bed at the eastern end of the main paleomeanders has good indications of gravel movement and deposition in the channel, which show it has made some attempt to restore itself to natural conditions. The bank is relatively deep here, but it is clear that during heavy flows, the existing form already results in water escaping down the paleomeanders and out onto the floodplain – undermining the rationale for such a radical change in the stream. There are also visible signs (spoil heaps and wide or deep sections) of former interventions in many places, but it is not now possible to determine whether these were minor modifications or re-routing.
6. Along the straight section where all the trees have already been cut down, the plan is, where possible, to use the identifiable paleomeanders still visible. The view was that these are too small for the likely flow volumes. Attention should be given to the intended target frequency for out of channel flooding (not known), for example, before deciding on the wavelength, and cross-section of the proposed meanders in this area where there are no suitable paleomeanders to reinstate.

7. This will also need to apply to the remaining section towards Alderhill Inclosure where the new route moves north of the existing Brook, traversing a complex section of drainage from the mires to the north, and through an already saturated area where there are no discernable paleomeanders. Here the LIDAR profiles show little difference in elevation from the current stream, which is already shallow close to Alderhill, and where the stream overflows onto the floodplain on the north side during heavy rains.
8. The overall conclusion was that Latchmore Brook consists of about five different types of characteristic forms, which all potentially need different treatment. It was agreed that Alderhill Inclosure will be a continuing source of rapid run-off until it is itself restored – probably in the next 10 years. The consensus was that the best solution would be to consider the catchment as a whole and that the Alderhill Inclosure should be restored first, thus avoiding potential damage and contamination to an already restored Latchmore Brook. A delay in any work on the Latchmore Brook itself would provide time to complete Alderhill first, and also to collect the necessary data to ensure that future work is designed to provide the best outcomes. Best practice would certainly involve appropriate monitoring and assessment both before and after the project.
9. From the visit, Friends of Latchmore have concluded that :
 - a) There is a strong case that until the excessive drainage in the Inclosures above Latchmore is rectified- there is little or no advantage in working on Latchmore Brook as it would only change the flood frequency regime (and not its extent) significantly, and this would be temporary (pending changes upstream). This is because in “normal” flows (not defined) the intention will be for the water to stay in the new and more meandering channels. How frequently it overtops will depend on both the cross-section, and volume of water entering the area.

At present, the only events which take the water onto the floodplain are quite significant rainfall events (roughly >25mm in 24 hrs) which results from heavy outflows from Alderhill. In heavy rains, the water, as it emerges from Alderhill spills out to the north bank as Latchmore is shallow at that point; it then spills out again onto the floodplain to the south at the beginning of the main paleomeander section; and then again at the Shade. This makes the need for shallower meanders almost irrelevant, until the Inclosures have been modified, to prevent the water leaving Alderhill in full spate. Only then would the new meanders fulfill their putative purpose when much lower volume events will also overtop these meanders.

Nobody knows the likely frequency of the overtopping events if and when the meanders are reinstated because no research has been done. What we do know, is that when we see flooding, it is mainly caused by the overflows at key low points rather than overtopping in a deep channel - which may be little different to the frequency when the paleomeanders and new-build meanders are used - because of the heavy outpouring from Alderhill and surrounding catchments.

- b) The rationale for the project as stated by Natural England and the Forestry Commission is very simple and mechanistic - to reverse any clearly visible previous drainage work and relocate the stream to the lowest point in a section. In other words, to “restore to natural conditions” irrespective of the time since this route was last occupied, and without any consideration of any natural recovery, or the costs, risks or benefits of so doing. Natural England appears to be focused on recreating wetland habitats with no consideration of the impacts on the existing stream and associated fauna and flora. Since there is only a general expectation (no quantitative estimates or targets) that this will benefit the biodiversity, it could be summarised as “faith-based management” compared with the “evidence-based management” that DEFRA is supposed to deploy.

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