

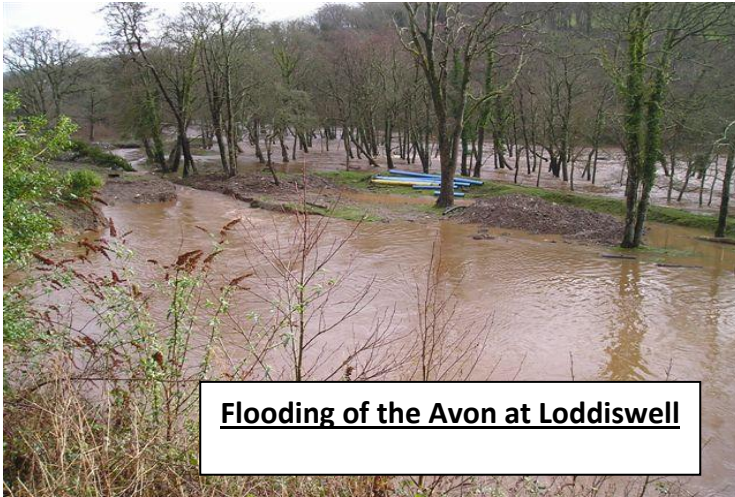
DOES THE AVON NEED A TROUT FARM AT LODDISWELL?

Arguably, one of the most enjoyable and picturesque stretches of the Avon runs from Hatch Bridge upstream to beyond the old Loddiswell Station and Silveridge Weir. However, the pleasures of visiting this area have been scarred in recent years by developments at the old trout farm downstream of Avon Mill. Whilst it is difficult to know exactly what is going on there, apart from ugly earthworks, tree-felling and planning disputes, a much-publicised justification of the development was the resurrection of the old trout farm whose derelict ponds provided evidence of this earlier purpose.

Aquaculture is one instrument for promotion of economic growth in rural areas because it creates jobs and income. Nevertheless, it is worth reviewing the environmental arguments against the re-development of a trout farm at this site in order to be able to evaluate their relative importance against the possible economic benefits.

Trout are farmed widely in the South West, mainly because the most important need is a clean river for adequate water supply, in an accessible spot. The flow of the water source will partly determine the stocking level as a sufficient water flow is needed to remove waste produced by the fish; the total volume of water available on any one site will be a limiting factor for the business. Even if much of that water is eventually returned to the river downstream it will undergo a variety of changes inherent in the fish production process; what goes back in is not the same as what is taken out of the river. Furthermore, the volume of water abstracted from any water course needs to be balanced against habitat needs, the increasing pressures of urbanisation, and the supply/demand uncertainties of water that go with climate change. Water availability in the Avon is already limited by the Avon Dam and we have argued that the true status of the Avon is 'OVER-ABSTRACTED' (an Environment Agency - EA - classification) for the following reasons a) drying out of salmonid spawning grounds, b) an inadequate supply of water for upriver migration of spawning fish, c) abstraction at some sites "which creates problems for the downstream migration of smolts" (Local EA Plan, Avon & Erme, February 2001), and d) probable inappropriate retention behind the Avon Dam of the 'water bank' which is reserved as part of the existing licence agreement for fisheries purposes. This situation still exists despite the recommendations of the EA's own 'Salmon Action Plan - Rivers Avon and Erme, December 2003' which identified several priority actions to improve the accessibility of spawning areas and to maximise the productivity of spawning and nursery habitats. Additional loss of water volume from the Avon or a reduction in water quality would be highly undesirable from an environmental perspective. Indeed, the EA's own Catchment Abstraction Management Strategy for the Avon (2007) recognises that 'current actual abstraction is such that no water is available at low flows. If existing licences were used to their full allocation, they could cause unacceptable environmental damage at low flows.'

A farm on a river will consist of ponds, tanks or raceways with the water supplied by gravity. Screens are installed at the inlet channel, to keep out debris and migratory fish. All effluent control is strictly monitored with regular testing by the EA but important potential pollutants of river water in fish farm effluent include: bacteria, viruses, fungi and other parasites which might infect wild fish; nutrients which can stimulate excessive plant growth (nitrogen and phosphorus); sludge from settlement ponds which adds to river siltation;



Flooding of the Avon at Loddiswell

chemicals and anti-parasitic therapeutics; dead fish and processing wastes; and fish escapes. The distance that any such pollutants will extend downstream and the consequent effects on the wider eco-system will depend upon the fish management regime, the river flow rate, fish-stocking density and treatment methodology. The siting of any fish farm on a river's natural flood plain where there is

a very high risk of seasonal flooding at high flows, such as at Loddiswell (see figure), would obviously render quality control of farm water inputs and outputs completely impossible.

Rainbow Trout (*Onchorynchus mykiss*) is the most popular trout species to farm in the UK. Although native to North West America, it copes best with our climate and farming system. In contrast, the **Brown Trout** (*Salmo trutta*) is indigenous to many European countries including Britain. Brown Trout and Sea Trout are the same species, which shows a wide diversity of life-cycle patterns, physical appearance and behavioural characteristics. Some of this variation is known to have a genetic basis and may reflect adaptation to the environment. In its National Trout and Grayling Fisheries Strategy (2003), the EA has stated its aim is to conserve and improve wild stocks of trout (Brown Trout), Sea Trout, Charr and Grayling and that it will take steps to conserve this biodiversity for its aesthetic, scientific and potential economic value, and also to maintain the evolutionary potential of the species at a time when environmental change is increasingly evident. The highly competitive, cannibalistic and predatory nature of escapee Rainbow Trout, deprived of their customary high protein fish diet, would threaten stocks of wild species and would be unlikely to help in achieving these strategic aims.

By

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May 2009