

Upland Hydrology Group

Water companies and the uplands

This briefing note has been written for the benefit of non-specialist colleagues, including for example senior decision-makers within water companies. It draws on discussions at a meeting of the Upland Hydrology Group (UHG) held in Leeds on 15th March 2012.

Introduction

The uplands of England and Wales provide a significant percentage of our water supplies. Water companies consequently have a major stake in ensuring both the quality and quantity of this resource.

Water company investment is predominantly spent on 'concrete' infrastructure, for example water treatment works and pipelines. Over the last decade however companies have increasingly invested in wider catchment works, as in some situations it may be more cost effective to maintain and protect water quality in the catchment rather than upgrade water treatment downstream. Catchment management interventions in the uplands were initially concentrated on land owned by the companies themselves; more recently active involvement has extended to land belonging to third parties.

Water company spending is regulated by Ofwat, working in liaison with a number of quality regulators including the Drinking Water Inspectorate (DWI), the Environment Agency and Natural England. Water companies are currently developing plans which will, in due course, be submitted to Ofwat as part of PR14 – the 2014 Price Review which will determine how resources will be spent under the companies' Asset Management Plans for the period 2015-2020 (AMP6).

Catchment work as an element within Asset Management Plans

Investment in water company infrastructure is largely an internal affair, with a clear focus on water quality, asset condition, growth provision and customer service. Investment in water supply catchments necessarily involves other players and can result in benefits (or indeed disbenefits) to a range of upland services in addition to water quality. These other ecosystem services include biodiversity, carbon storage or sequestration in soil, recreation, support of the rural economy and the production of food and timber.

Even where water companies own the freehold of land in a given catchment, experience suggests that the best outcomes will generally be achieved in co-operation with tenant farmers and others. If land is owned by a third party, catchment works can only proceed with the support of the land-holders. Win: win outcomes which deliver sustainable benefits in terms of both water company and land manager / land owner goals have been achieved when water company personnel have taken the time to develop an in-depth understanding of why land is being managed in a certain way, and of the constraints under which upland farmers and others operate. Such understanding can also lead to long term agreements about how land should be managed, rather than adopting a more short term approach in which, for example, farmers are paid compensation for avoiding certain management practices or the use of specific chemicals.

Land-owner organisations, NGOs, organisations involved in upland restoration and agencies such as the Environment Agency and Natural England would all like to support water companies as they develop their AMP proposals. In part this is because water company investment represents a very significant income stream, with the capacity to deliver environmental outcomes in addition to water quality and quantity improvements.

The benefits of upland catchment work

Those who attended the Upland Hydrology Group meeting were unanimous in their support for increased upland catchment work under AMP6. It was agreed a long term (say 30 year) view was essential if the effectiveness of this approach is to be assessed. In justifying an increase in upland catchment work delegates cited:

- The opportunity to increase resilience and security of water supply in the face of changing climate / other challenges which may emerge

- The wide range of possible benefits. While in some instances the justification for catchment works to improve water quality may be uncertain (at least in the short term) when the wider ecosystem benefits are put into the equation the rationale is unquestionable
- There is a requirement under Article 7 of the Water Framework Directive for the Environment Agency to work with companies and other stakeholders to take steps to protect water resources, and so avoid an increase in downstream purification. The principal challenge in many upland catchments is an underlying increase in water colour, which can often be tackled by raising water tables in peat soils
- The cost to consumers is often modest: one water company representative reported that £10m worth of catchment management work under PR09 will result in a 65p increase on a typical consumer's annual bill by 2015.

Demonstrating the impact of catchment work

Demonstrating the impact of upland catchment work raises a number of issues. Firstly outcomes may not become apparent for 10-20 years, while over the same period the baseline position may be changing. A second difficulty is that evidence will often be through proxies rather than direct measures of water quality (while concrete outputs constructed downstream are much easier to quantify). Despite these challenges catchment projects can deliver high benefit:cost ratios, especially when as a result capital investment downstream can be deferred and other ecosystem benefits are taken into account.

Addressing typical catchment issues in the lowlands (for example diffuse pollution as a result of pesticide application or high levels of nitrogen) can show a relatively quick outcome. There tends to be more uncertainty and variability in upland issues (e.g. colour in water) and these take much longer to respond to treatment. A cautious response to this situation may be to invest in lowland areas first, even when potential gains may be greater in the uplands.

The UK Water Industry Research (UKWIR) project "Quantifying the Benefits of Water Quality Catchment Management Initiatives" has developed a framework for evaluating catchment schemes and this may make it easier to justify upland management work in the future.

Challenges to rolling out the catchment approach

Some within the water industry (especially perhaps those from an engineering background?) have doubts about the philosophy underpinning catchment schemes, as results are not guaranteed. Concrete infrastructure previously scored over catchment improvements as an asset which can be represented in company accounts, but since 2009 this has also applied to investments made on third party land.

The process of engagement with third parties, including land-holders, regulators and NGOs such as Rivers Trusts and the RSPB is time consuming and may need extra effort to achieve a positive result. There is a risk in planning work on land not belonging to the water company: some members of the farming community in particular are wary of change and in some instances it may be difficult to reach agreement about implementation of the planned works.

Taking the debate forward

Delegates at the UHG meeting agreed that it was important to raise the profile of this issue in a number of ways:

- Whenever possible senior colleagues from water companies and Ofwat should be encouraged to undertake site visits so they can see and experience at first hand what can be achieved in the uplands
- The catchment approach should be presented to the wider public as a way of increasing long term resilience, selling the idea that modest investment now will limit price increases in the future. Customer support is an essential prerequisite if Ofwat are to approve catchment works. Public awareness of the current drought / recent floods means this is a good time to send out such a message
- Sharing of best practice between water companies, and more effective engagement with the academic community, should also be encouraged. In a number of current projects, this collaboration is proving to be of significant benefit to all parties.