



PRIVATE WATER SUPPLIES – CASE STUDY 2014/02

Classification of tourist springs and wholesomeness issues

Historic springs that are used as a tourist attraction

It is not uncommon for a spring to feature as a tourist attraction at a historic site visited by the public and in such instances information about the spring must be on the local authority's private supply record. Such supplies fall in scope of Regulation 9 and require a risk assessment and annual monitoring; however, the context of these supplies means that applying the Regulations is not straightforward and the case study below illustrates how some of the issues with safeguarding this type of private supply can be resolved.

The case study involves a historic drinking water fountain where, during the tourist season, water is served to the public for a fee by people dressed in costume known as 'dippers'. In this way public access to the spring water is controlled and minimised to a 'tasting' experience. (see Figure 16) The spring is not used for domestic purposes at the tourist attraction, there being a separate public supply available for other public facilities.

Due to the 'historic' label attached to this type of supply, it is a common misperception that the quality is consistently good and stable. This perception has often been reinforced by satisfactory results having been reported from occasional and limited testing (coliforms and *E.coli*) carried out under the old 1991 Regulations. Unfortunately such perceptions are often misplaced and this case illustrates why a risk assessment is needed and the hazards that may need to be considered.



In 2010, work in the neighbourhood to repair a gas main led to the rupture of a sewer with consequential contamination of the ground. Fortunately the 'dippers' were alerted to the fact that something might be wrong with the spring water by a strong odour. When the well water was tested it was found to contain very high numbers of *E.coli*. The spring was closed to the public and not reopened until after the pollution event was remedied and water quality returned to normal. More recently, the flow to the spring stopped.

While the cause has not been fully made clear, it is probably linked to construction works to create an underground walkway at a nearby hotel. These works required large quantities of groundwater to be continuously pumped out from the excavation to enable the walkway to be built and for the concrete to set. The long-term fate of the spring in terms of both sufficiency and quality will only be determined after the completion of a

Figure 16: Public spring

substantive joint investigation by the local authority and the Environment Agency. As both sets of circumstances illustrate, many 'historic' water features are now located in a very different setting to that which existed in the past.



The local features that may once have afforded protection to the source rarely exist today. Furthermore, with the advent of mains water and sewerage supplies, development of the local economy will no longer have awareness and safeguarding of the historic water supply at its heart. There will be a wide range of routine, but far from benign, modern social and economic activities taking place in and around these water features that need to be understood and actively managed if these supplies are to be safeguarded for public enjoyment. Far from being seen as an unnecessary regulatory burden on tourism, the carrying out of a regulatory private supply risk assessment should be seen as an essential tool for maintaining the tourism value of these water features.

The risk assessment of this supply was carried out in November 2013. Routes of ingress by vermin and surface water existed due to the piping arrangements and because the feature was open to the elements. In addition to these microbiological risks, the water exhibited a range of other natural characteristics making it unwholesome: iron ($>30,000\mu\text{g/l}$), manganese ($>2,000\mu\text{g/l}$), turbidity (78NTU), pH (5.8), taste (metallic) and odour (sulphurous). To mitigate the microbiological risks by disinfection would have required the turbidity associated with the iron and manganese to be reduced substantively so that disinfection was effective. However, in this scenario the usual reasons for requiring removal of iron and manganese, and pH correction to meet these national standards were not applicable. For example, the water did not need to be clean to ensure that it was not rejected for personal hygiene due to its appearance. Likewise impaired functioning of toilet flushing, laundry and central heating would not arise. The microbiological risk could therefore be mitigated in a practical way by making improvements to the source to prevent ingress and making sure that public access was restricted to just supervised tasting sessions.

The Regulations should not be seen or used as a barrier to the continued use of these historic water features in the future for the benefit of the tourists and the local economy. The regulatory priority should be to carry out a risk assessment and where the supply is not wholesome and safe for all domestic purposes, consider how the public access to the supply can be limited and controlled so as to maintain the tourism benefit. Usually this will mean that steps need to be taken to ensure that any public facilities (toilets, cafes, accommodation) are served by a mains supply and the public are actively discouraged from filling their own containers with water from the historic supply. As part of the risk assessment process, the local authority should ensure that the local planning authorities, utility providers, landowners and the Environment Agency are made aware of the historic feature and take into account the need to safeguard this water resource in terms of decisions they make.

