10 Advice on private water supplies

10.1 Introduction

10.1.1 Private water supplies are defined as any supplies of water provided otherwise than by a statutorily appointed water utility. There are about 50,000 private water supplies in England and Wales supplying about a third of a million people with water for domestic purposes and 20,000 in Scotland supplying 130,000 people. Approximately 40,000 of these supplies serve people in a single dwelling. However, many more people will consume private water supplies used for food production purposes such as brewing or when it is supplied to places such as hospitals, hotels, schools or campsites.

10.1.2 Although there are some private supplies in urban areas, particularly those used serving industrial purposes, most private supplies are situated in the rural parts of the country. The source of the supply may be a well, a borehole, a spring or a stream. The supply may serve just one property or several properties.

10.2 Regulation of private water supplies

10.2.1 Private water supplies are regulated by local authorities under the Private Water Supplies Regulations. These contain the same water quality standards as those for public drinking water supplies but the frequency of monitoring and the parameters tested will vary according to how many people use the supply or the volume of water used daily. The regulations do not require private water supplies to be monitored specifically for *Cryptosporidium*. They rely on the presence of faecal coliform indicator bacteria to warn of possible microbiological contamination.

10.2.2 The regulations require only infrequent monitoring of small private water supplies and there is no specified sampling frequency for those supplies serving only a single property for domestic purposes. Therefore owners and users of private water supplies need to be aware of the potential for water contamination and what can be done to reduce the risk.

10.3 Quality of private water supplies

10.3.1 All private water supplies can pose a threat to health unless they are properly protected and treated. Although many private water supplies provide a safe source of water there are risks of contamination from micro-organisms including *Cryptosporidium* associated with them that do not apply to public water supplies. These are:

- farm animals may have unrestricted access to the source catchment and in some cases the wellhead or spring collecting chamber;
- many sources have inadequate protection from contamination from surface runoff; and
- the absence of treatment to many supplies and the inadequacy of many of the treatment systems that are installed.
10.3.2 For the reasons given above private water supplies can be more likely than public water supplies to contain *Cryptosporidium*. This has been demonstrated in a small study in northern England (Clapham 1997) where *Cryptosporidium* oocysts were detected in nine out of 15 private water supplies known to contain total and faecal coliform bacteria regularly. There was no known illness associated with the users of these supplies, but all those who drink contaminated water are at risk of infection. However, the risk is likely to be greater for the very young, the infirm and the immunocompromised and for those who do not drink the water regularly, such as visitors and holiday makers. It may be advisable for them to use boiled or bottled water for drinking.

10.4 Advice on protecting the supply

10.4.1 One of the best methods of evaluating the potential quality of a private water supply is a sanitary survey. Important elements to be considered are:

- the type of supply that is groundwater, surface water or spring;
- source protection;
- access of animals to the catchment; and
- the condition of collection chambers, tanks and pipework.

10.4.2 It is much better to protect the source of the supply to prevent contamination rather than trying to treat the water afterwards. Protection can be provided by using fencing to keep grazing animals away, having suitable drainage channels to divert rainwater, covering and sealing the tops of boreholes and wells and making sure collecting chambers are in good condition and protected from animal access.

10.4.3 If owners and users of private water supplies know or suspect that their water supply is contaminated with micro-organisms they should install treatment, or if practicable, consider the possibility of connecting to the public supply. Their local authority can give advice on the right type of treatment and the local water utility on the availability of a public supply. As an interim measure all water to be used for drinking and food preparation should be boiled. It is only necessary to bring the water to the boil, prolonged boiling is unnecessary.

10.5 Further advice for local authorities and owners and users of private water supplies

10.5.1 The Drinking Water Inspectorate has provided advice to local authorities on *Cryptosporidium* in Private Water Supplies (DWI 1996) and DW1 (DWI 1998), the Scottish Office (SO 1997) and Northern Ireland Environment and Heritage Service (NIEHS 1997) have produced advice leaflets for owners and users of private water supplies. The Expert Group endorses the advice in these publications that source protection is the greatest safeguard for *Cryptosporidium* in private water supplies. The text of the DWI advice leaflet is reproduced in Appendix A6.
References


