

Private Water Supplies – 2. Scotland

Scope and context

Drinking untreated water carries the risk of infection by various micro-organisms, such as the bacterium *Escherichia coli* and the protozoan *Cryptosporidium parvum*. These, and a range of other potentially pathogenic micro-organisms, originate from faeces from the guts of various animals, both farm and wild, and are carried into natural waters by runoff of rainfall. Further details of these organisms and their pathology can be found on the US FDA *Bad Bug Book* website –

www.fda.gov/food/foodborneillnesscontaminants/causesofillnessbadbugbook/default.htm

– and see particularly *E. coli*, *Campylobacter*, *Cryptosporidium* and *Giardia*. In recent years a number of cases have been reported of serious illness due to the presence of *E. coli* O157 in private water supplies in the Scottish Highlands and there have been outbreaks of *Cryptosporidium* infections due to failure of a treatment plant operated by Scottish Water. *Giardia* infections via untreated water supplies in the UK are rare.

Legal aspects

In Scotland private water supplies are regulated by local authorities under the Private Water Supplies (Scotland) Regulations 2005 and the Water (Scotland) Act 1980.

The Private Water Supplies (Scotland) Regulations 2005 update earlier regulations and incorporate the latest advice and knowledge from around the world about what is good and what is bad about drinking water quality.

Drinking water from a private supply that serves 50 or more people or provides water to a commercial activity like an hotel, restaurant, bed & breakfast establishment, hostel or campsite is classified under the 2005 Regulations as a 'Type A' supply. This means that the drinking water quality must be monitored and assessed against the requirements set out by the European Union in the Drinking Water Directive of 1998. Where the water to a mountaineering hut is piped from an untreated source, such as a burn or lochan, it is also classified as 'Type A'.

All private water supplies in Scotland must be registered with the local authority where the source of the supply is located. You can check the entry for your property in the register by contacting your local authority environmental health service. If your hut is not registered then you are legally required to do so. Once registered, the supply is subject to an initial assessment and annual monitoring, for which charges are levied by the local authority.

Exemptions

The regulations do not apply if the untreated water is not piped to the hut, e.g. if water is carried in buckets or carboys from a burn to the hut. However, in such cases it is recommended that a notice should be displayed that the water must be boiled before use in food preparation and drinking.

* See notes in the information box on page 3 re. the currency (version no.) of this guideline

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Water treatment grants

Grants of up to £800 are available from your local authority to help improve private water supplies. The grant scheme is non-means tested. The main criteria for eligibility for financial assistance are –

- the private water supply to the premises is the main or sole source of water for human consumption
- the private water supply is in need of improvement to bring it up to modern standards

See – <http://dwqr.scot/private-supply/information-for-pws-owners-and-users/> FAQs.

If the hut is rented or leased then the landlord should be involved in the application process.

Further information regarding grants is available from your local authority; follow the link to the contact list via the above [URL](#).

Information

Legislation: The legislation relating to private water supplies in Scotland can be viewed at –

www.gov.scot/Topics/Environment/Water/17670/pws

and see –

<http://dwqr.scot/information/regulatory-framework/>

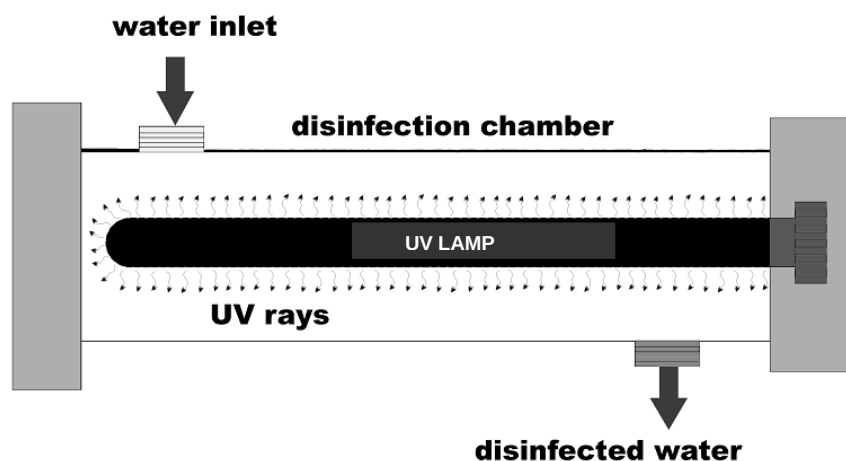
Technical information: A technical manual providing comprehensive information on all aspects of private water supplies can be downloaded from –

<http://dwqr.scot/private-supply/technical-information/>

Information notice: The regulations require that all premises where a private water supply is supplied or used as part of a commercial or public activity must display this information in a prominent place – <http://dwqr.scot/private-supply/communications/pws-information-poster/>

A note on UV water sterilizers

Water sterilization is normally carried out by irradiation with ultraviolet light of a specific wavelength that kills microbes exposed to it. The construction of a typical unit is shown below –



In order for the treatment to be fully effective it is *essential* that the unit is properly maintained and the manufacturer's instructions should be followed carefully. It is particularly important to note the following points –

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- The UV striplamp has a finite lifetime and should be changed at the interval recommended by the manufacturer. An inexpensive hours-elapsed meter can be fitted. In order to conserve the life of the lamp the UV unit should not be left switched on when the hut is unoccupied. **N.B.** some UV lamps contain mercury and should be disposed of at an approved facility.
- The protective quartz glass sleeve surrounding the UV lamp should be cleaned regularly. Over time, deposits of organic and/or mineral material form on the sleeve and absorb UV light and so significantly reduce the effectiveness of the unit.
- It is recommended that at least one prefilter (ideally 10 micron) should be installed upstream of the water inlet to the unit in order to remove particulate material. Particles in the water supply absorb and scatter the UV light and shade the micro-organisms, so the unit cannot operate with 100% efficiency. The filter(s) should be cleaned or replaced regularly.
- It is important that the flow rate through the UV unit should not exceed the manufacturer's specifications.

In cases where there is no mains electricity supply, power could be supplied by a small photovoltaic or wind microturbine system to charge storage batteries linked to a small DC/AC inverter – the power requirement of UV sterilizers is typically only a few tens of watts.

Note: If viewing this .pdf while online then clicking on any [URL](#) will take you to that website.

About Hut Guidelines

These guidelines have been produced by the Huts Advisory Group of Mountaineering Scotland and the Huts Group of the British Mountaineering Council to assist those operating mountain huts in Britain.

Contact the MS Huts Advisory Group by e-mail – huts@mountaineering.scot

Contact the BMC Huts Group by e-mail – huts@thebmc.co.uk or telephone 0161 445 6111.

Websites: www.mountaineering.scot and www.thebmc.co.uk

URLs: If any of the URLs (web addresses) given on the preceding pages are found to be 'dead links' then please notify huts@mountaineering.scot

Disclaimer: These guidelines were revised on the date shown below and the information herein is believed to be accurate at the time of writing. No responsibility can be accepted for any loss of benefit or entitlement arising through use of these guidelines – they are not intended to be definitive.

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These guidelines are updated periodically; to check on the currency of this version go to one of the websites above where the latest version will always be displayed.