

Is your private water supply safe?

A guide for owners and users

An information leaflet by the Drinking
Water Inspectorate for Northern Ireland



Is your private water supply safe?

The purpose of this leaflet, produced by the Drinking Water Inspectorate for Northern Ireland, is to provide information to the owners and users of private water supplies on:

- the potential risks in using a private water supply;
- how to assess and protect against these risks; and
- how to get more advice on your private water supply.

What is a private water supply?

A private water supply is any supply of water not provided by Northern Ireland Water (NI Water), the public (mains) water supplier. Less than 1% of the population of Northern Ireland use a private water supply. A supply may serve a single property, many properties or a commercial business.

What is the Problem?

Safe drinking water is essential to good health. All private water supplies can pose a threat to health unless they are properly protected, treated and maintained. They may become contaminated with bacteria, protozoa, parasites and viruses (micro-organisms) or other substances. Many of these are harmless, but some can cause serious illness or even death in vulnerable groups of people. You may not be able to tell whether your water is contaminated as it may not change the smell, taste or colour of the water. Unlike public supplies, many small private supplies are not treated to remove contamination. This leaflet explains a number of things you can do to protect your supply and reduce the risk of contamination.



What is the role of the Drinking Water Inspectorate?

The Drinking Water Inspectorate (DWI) is responsible for the monitoring and regulation of private water supplies to commercial or public premises or groups of domestic houses (excluding single domestic dwellings) where the water is used for drinking, washing, cooking or the production of food/drink. If your private water supply is in one of these categories then you are required to register your supply with us under the private water supplies regulations.

The DWI can offer advice to the owners/users of all private water supplies, including those to single domestic dwellings. This advice can cover protection of your source, storage and distribution of your water, as well as providing details on the different treatment options available to owners/users of private water supplies.

Types of Private Supplies

Springs, Boreholes and Wells

Springs, boreholes and deep wells that draw water from deep underground sources are less likely to be contaminated than supplies from other sources but water may become contaminated where:

- the spring emerges; or
- the water collects in the borehole or well.

In farmland, underground water can pick up nitrates (from fertilisers) or pesticides which may be harmful to health. Water from shallow wells, and springs which draw water from close to the surface of the ground, is usually less wholesome and more likely to be contaminated.

Streams, Rivers and Lakes

The quality of water from streams, rivers and lakes will generally not be as good as that from springs, boreholes and deep wells. The quality of this water will also vary depending on the weather conditions. It is highly likely to be contaminated, particularly with bacteria, at times of:

- high rainfall; or
- warm weather.

Water that runs across land into streams, rivers and lakes picks up contamination from various sources, for example, the soil and the droppings from farm animals, wild animals and birds. Some of this contamination may be dangerous to health. Also contamination from pollution events puts these sources at high risk.

Sources of Contamination

Micro-organisms

A number of serious illnesses can be contracted from water contaminated with micro-organisms (bacteria, viruses, parasites and protozoa). The most likely source of contamination of the water will be animal droppings. Water supplies drawn from farmed land where animals graze or where manure is spread are at most risk. The risk is particularly high at times of heavy rainfall, when water may run directly off farmland and carry micro-organisms into private water supplies.

To reduce the risk of bacterial contamination, it is advised that slurry should not be spread within 50 metres of a borehole, spring or well. In addition, the location of septic tanks should be checked to ensure that any discharge is directed away from drinking water sources.

People who do not drink the private water supply regularly and are not used to it, such as visitors and guests, may be at greatest risk of infection from micro-organisms in the water.



Chemicals

Private water supplies may be affected by chemicals used in:

- farming or forestry (for example, fertilisers, pesticides and sheep-dip); or
- old industrial premises or workshops.

Pesticides

Pesticides should not be sprayed or stored in the vicinity of drinking water sources. The buffer zone distances recommended by the manufacturers of pesticides should always be observed. Advice should be sought on the disposal of waste pesticides and sheep dips so as to prevent contamination of private water supplies.



Nitrates

Water containing high levels of nitrates may not be suitable for:

- young children;
- bottle-fed infants; or
- pregnant women.

Lead

Some private water supplies in Northern Ireland are naturally acidic and may dissolve lead. If your supply passes through a lead tank or pipes, either outside or inside the home, it is possible there will be a significant amount of dissolved lead in your water. Due to the health risks associated with lead you should replace any lead pipes, fittings or tanks.

Other Materials

Some water contains naturally occurring materials picked up from the ground such as iron or manganese. These may affect the appearance, taste or smell of the water. On the whole, these are not necessarily dangerous to health but could make any disinfection treatment installed on your supply less effective.

Keeping Your Supply Safe

Find Out About Your Supply:

- Who is responsible for the upkeep and maintenance (if this is not clear, consider reaching an agreement with the other users)?
- Where is the source?
- How does it get to your property?
- Is it treated in any way?
- Is the treatment equipment in good order and maintained and serviced regularly?
- Has your supply been tested?

Source Protection:

- Check that the source is adequately protected by watertight covers to stop surface water entering your supply, particularly at times of heavy rain.
- Ensure that the water being collected is not contaminated by discharges from a septic tank, or slurry spreading, or any nearby sources of pollution e.g pesticide or oil storage.
- Check that neighbouring farmers are aware of the drinking water supply and the need to avoid contaminating it by farming activities.
- Fencing may be necessary to stop farm and other animals from interfering with the source.
- Divert rain-water run-off so it does not flow into your supply (for example, with a small ditch leading away from your supply).





Pipe Work and Storage Tanks:

- Check that pipe work bringing the water from your source is in good condition, does not leak and is protected from being damaged by weather, animals or farm machinery.
- Storage tanks should have watertight walls and lids.
- Overflow pipes or vents should be protected by a suitable mesh to prevent small animals entering the tank/chamber.
- A schedule should be put in place for regular checking and maintenance of pipe work and storage tanks.

Water Treatment:

- Treatment installed on your supply should be maintained and serviced as recommended by the manufacturer.
- UV treatment should be regularly checked to ensure it is operating correctly and the pre-filter replaced, as required, dependent on the quality of the source water.
- UV lamps should be routinely replaced, normally annually.
- Where chlorination is used to disinfect the supply, controls should be in place to maintain the required levels of chlorine at all times, especially over weekends.
- Treatment/disinfection in place should be sufficient to adequately treat the water even during periods when your water quality may be poor.

Supplies from Streams, Rivers or Lakes

- The collection arrangement should include a settlement pond to allow larger particles to settle out before the water flows into your supply.
- The collection arrangement should include a sand or gravel filter to remove organic material and small animals. These filters will not remove all micro-organisms or chemical contamination.
- These supplies will normally require treatment/disinfection due to the levels of contamination common with these sources.

Water Quality Testing

- Private water supplies registered with the DWI under the private water supplies regulations will be tested and the results provided to the owners/users.
- For private supplies to single domestic dwellings, you should contact the environmental health department of the local council to request a sample to be taken.
- The results from water quality testing provides some assurance that your private water supply was safe at the time of sampling. However, the quality of your water may change at different times throughout the year e.g. after heavy rainfall.



Which Scenario Applies to You?

Do You Supply Water to Others?

You may supply water to other people as a shared supply, or in the course of a business, for example by renting out holiday accommodation or using water for food production. If this is the case, you have a duty of care towards these people for the safety of the water you supply. In these circumstances, you must also register your supply with the DWI under the private water supplies regulations. You can do this by contacting us and completing a registration form (http://www.ni-environment.gov.uk/pws_registration_form.pdf). Your supply will be placed on a monitoring programme to check that it meets the water quality standards in the regulations and a risk assessment will also be carried out on your supply. We, at the DWI, work closely with the local councils in carrying out our responsibilities under the regulations.

Local councils have responsibility for the regulation of bottled water suppliers, although where a private supply is also used for drinking water or cleaning equipment in such businesses it should be registered with the DWI for these activities. The supply will then be monitored under the private water supplies regulations.

Is Your Supply to a Single Private Dwelling?

If your private water supply is to a single private dwelling it is not required to be monitored by the DWI under the private water supplies regulations. You can contact the environmental health department of your local council if you wish to have your supply tested. For local council contact details, go to www.nidirect.gov.uk. The DWI can offer advice to all private water supply owners and users, including supplies to single dwellings, on actions that can be taken to protect human health.



What Should I Do?

Should I improve my supply?

If your private supply is contaminated, or at risk of becoming contaminated you should investigate this to safeguard the health of anyone coming into contact with the water supply. You may need to make improvements to your supply which may involve installing treatment, replacing pipes, carrying out maintenance or other improvements. The DWI will be able to give advice about treatment methods or other details on how to improve your water supply.

If your supply is registered under the private water supplies regulations you are under a duty of care to take action to ensure that the water supply is safe and wholesome at all times. Where a supply serves more than one household it will probably make some sense to install treatment for the supply as a whole rather than in individual households. Many different forms of treatment are available, and your choice should suit your particular supply, whether it is to a series of domestic dwellings or for a commercial activity.

If you become ill, particularly with vomiting and diarrhoea, and are required to visit your doctor, you should advise them that your drinking water is from a private water supply.



What are my responsibilities?

Where a supply registered with the DWI is identified as not being safe or wholesome then, following an investigation, remedial actions may be necessary. The DWI is required, under the regulations, to follow up on these actions to ensure they have been completed.

The DWI will, where appropriate, use informal negotiations to facilitate the completion of this work or it may serve a notice on the owners/users of such supplies. A notice will require the owner to undertake the necessary remedial actions and may place restrictions or prohibit the use of a supply until the required work has been undertaken. It is an offence not to comply with the conditions of a notice issued by the DWI.

Do I need a risk assessment?

The private water supply regulations require that a risk assessment is carried out on all private water supplies registered under these regulations. These risk assessments will be carried out for you and will identify areas where there may be a potential risk of contamination. They will include the whole private water supply system, from source to tap.

For the owners/users of private water supplies to single private dwellings, the DWI can provide advice on identifying potential risks to your water supply. Contact details for the DWI are on the back of this leaflet.

What else can I do?

In some circumstances it may be advisable to consider the possibility of connecting to the public water supply. This will be dependent on your location but you can ask NI Water about the possibility of connecting to the public water supply ("mains"). You can contact NI Water on their WATERLINE number (08457 440088) for further information.

How can I get advice on my supply?

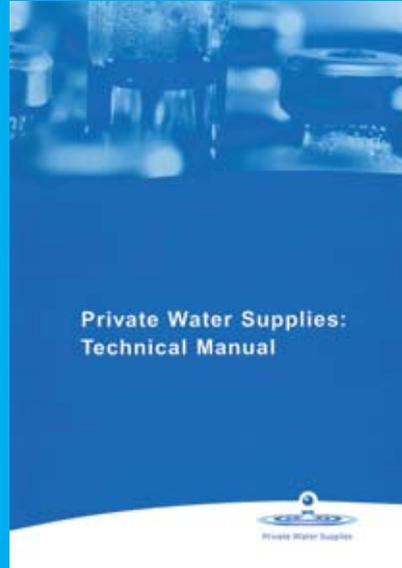
Even if your supply is not required to be registered under the regulations, the DWI and your local council can offer advice to all owners or users of private water supplies. Contact details for the DWI are on the back of this leaflet. For local council contact details, go to www.nidirect.gov.uk.

Further Information

There is also a UK wide on-line resource providing advice and information on private water supplies, including a Private Water Supplies Technical Manual, at www.privatewatersupplies.gov.uk

If you have any questions or want any advice about your private water supply, contact the Drinking Water Inspectorate whose address, contact details and website are located on the back of this leaflet.

www.ni-environment.gov.uk/water-home/drinking_water/private_water



Our aim is to protect, conserve and promote the natural environment and built heritage for the benefit of present and future generations.

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