



Department of the Environment,
Heritage and Local Government

KEEPING YOUR UNREGULATED PRIVATE WATER SUPPLY SAFE

Purpose Of This Leaflet

The European Union Drinking Water Directive (98/83/EC) requires Governments and Article 15 of the 2000 Drinking Water Regulations (S.I. No. 439 of 2000) requires Sanitary Authorities to provide owners and users of unregulated private water supplies with information about the risks of contamination and with advice about what they can do to protect their supplies and keep them safe. This leaflet fulfills this obligation for Ireland.



Why is this leaflet needed?

Although the majority of private water supplies are probably safe to drink most of the time, they are at risk from contamination. A number of serious illnesses caused by pathogens, such as *E. coli 0157* and *Cryptosporidium* can be transmitted through contaminated drinking water supplies. It is essential that you keep your private water supply safe from contamination to protect your and your family's health.

What is an unregulated private water supply?

An unregulated private water supply is any supply that is not provided by or regulated by a Sanitary Authority. It is any private supply that provides less than 10m³/day of water or serves less than 50 people and does **not** have a public or commercial activity, such as a restaurant or bed and breakfast respectively. In other words it is a supply to normal residential properties exclusively.

What is the problem?

Safe drinking water is essential to good health. Unregulated private water supplies can pose a risk to health unless they are properly protected and treated. They may become contaminated with microbes, such as bacteria, or chemicals. Some of these are harmless, but others may cause serious illness, particularly in vulnerable people such as the elderly, very young, pregnant women and sick people. You may not be able to tell without sampling and analysis whether your water supply is safe because the contamination may not change the taste, smell or colour of your water.

This leaflet explains how you can protect your supply and reduce the risk of contamination. It also describes the different types of unregulated private water supplies and the things that may contaminate them.



Types of unregulated private water supplies

Springs, wells and boreholes

Springs, wells and boreholes may get contaminated where:

- ❖ The spring emerges from the ground
- ❖ The water collects in the borehole or well

Springs and shallow wells that draw water from close to the surface are more likely to be contaminated than springs, wells and boreholes that draw water from deep underground. In farmland, underground water can pick up nitrate or pesticides from their use on crops. It can also pick up pathogens from faeces of grazing animals or the spreading of manure or slurry. Consumption of this water may have adverse effects.

Streams, rivers, ponds and lakes

The quality of water from streams, rivers, ponds and lakes will generally not be as good as that from springs, wells and boreholes. The quality will also vary depending on weather conditions and activities in the catchment. These waters are more likely to be contaminated, particularly from bacteria, at times of high rainfall and warm weather.

Water that runs across the land into the streams, rivers, ponds or lakes can be contaminated from various sources such as soil, crops and faeces of farm animals, wild animals and birds.



What should you do?

First - find out about your supply

- ❖ Who is responsible for its maintenance – if not clear, consider reaching agreement with other users?
- ❖ Where is the source of the water and what type of source – spring, well, borehole, stream/river, pond or lake?
- ❖ Where does it go from the source to get to your property?
- ❖ Is it treated in any way – and if so is the treatment equipment in good order and serviced regularly?

Second - keep your supply safe

Inspect all parts of your supply regularly to check that it is in good condition and has not been interfered with or damaged. This means looking at the source of the supply, including the catchment of the source, at any collection chamber and treatment plant, and the pipe work to your property.

For supplies from springs, wells and boreholes

- ❖ Check that the source is adequately protected to stop surface water getting into your supply, particularly at times of heavy rain. There should be no ponding of water near the source.
- ❖ Ensure well head is clean and animals cannot get close.
- ❖ Ensure integrity of nearby slurry and silage storage areas.

For supplies from streams, rivers, ponds and lakes

- ❖ The collection system should include a settlement pond or collection chamber to allow larger particles to settle out before water flows into your supply.
- ❖ The collection system should include a sand or gravel filter to remove organic material such as leaves, small particles and small animals before water flows into your supply. These filters will not remove all small organisms or chemical contamination.
- ❖ Ensure that the water source is not contaminated by discharges further upstream from sewage works, septic tanks and other small on-site sewage treatment systems.

For supplies from farmland

- ❖ Divert rainwater run-off so that it does not flow into or towards your source – for example a small ditch leading away from your source.
- ❖ Check that the farmer is aware of your water supply and the need to avoid contaminating it by farming activities such as animals grazing spreading of manure or slurry and use of fertilisers and pesticides.



- ❖ Fencing may be necessary to keep farm animals and wild animals from your water source.
- ❖ Make sure it has watertight walls and lid.
- ❖ Ensure that the top is above ground level to prevent water from the surrounding land flowing onto the chamber or tank.
- ❖ Make sure any overflow pipes or vents are designed to stop small animals and debris from entering the chamber or tank.
- ❖ It should not be close to any discharge, soak-away or drain.



Third - consider getting your supply checked

If you are concerned that your supply may be contaminated you should get it checked. Your local Sanitary Authority may be able to inspect and test your supply and it may make a charge for this service.

Alternatively you can arrange to have a sample tested using a private laboratory. But remember that a test can only tell you about the quality of your supply at the time of the test and the quality of water may change at different times.

Fourth - consider treating your supply

If you know or suspect that your supply is contaminated you should consider getting it treated to remove the contamination. If your supply also serves other properties it is better and cheaper to install treatment for the whole supply, provided the other property owners agree, than to install treatment at each property. The choice of treatment must suit your supply and the contamination present.



Your local Sanitary Authority may be able to give advice about the best treatment method and other improvements for your supply. The Sanitary Authority may also be able to offer you a grant to help with the cost of the work. Alternatively you can consult a private treatment equipment supplier.

Fifth - consider your pipe work

Many unregulated supplies are naturally acidic and may dissolve lead from lead pipes (or lead tanks). If your water supply passes through lead pipes, either inside or outside your property, it may contain high levels of lead. Lead can be particularly harmful to infants and young children. You should consider either adding an alkali to make the water less acidic or replacing the lead pipe work with plastic pipe work. Your local Sanitary Authority may be able to advise and may be able to offer a grant towards the cost of replacement.

Sixth - what else can you do?

If you no longer want to use your unregulated private supply because of the cost of treating or improving it, you may be able to connect to a regulated public supply. You should contact your local Sanitary Authority to enquire if this is possible and how much it would cost. It may not be possible or too expensive if the nearest regulated public supply is some distance away. The Sanitary Authority may be able to help you with a grant towards the cost.

What if you supply water to other people or properties?

If you supply water as part of a commercial activity, for example, bed and breakfast or to other properties for a charge or renting out holiday accommodation, the local Sanitary Authority will regulate your supply.

If you supply water to other properties free of charge, you still have a duty of care to the users of water in those properties. If you think your water supply is unsafe because of contamination you and your family and the occupiers of the other properties should:

- ❖ contact the relevant Health Board,
 - ❖ either boil all water for drinking and cooking; or
 - ❖ use bottled water for drinking and cooking,
- until you have treated or improved your supply to deal with the contamination. Regular users of the supply may have built up an immunity to any bacteria present.

Sources and types of contamination

Bacteria

The most likely source of bacteria will be animal faeces. Water supplies drawn from farmland where animals graze or where manure or slurry is spread are most at risk, particularly where rainwater can run directly off farmland into the water source.

People who do not drink the water regularly, such as visitors and guests, are at the greatest risk of contracting a disease or infection due to pathogens in the water supply.

Chemicals

The most likely source of chemicals will be farming and forestry (use of fertilisers, pesticides and sheep dips). Other sources are industrial premises and workshops and mining and quarrying, both operating and abandoned. Fertilisers contain nitrate. Water with high levels of nitrate may not be suitable for pregnant women, bottle-fed infants and young children.

Lead can be picked up from lead pipe work. Water with high lead levels may not be suitable for infants and young children.

Radon and uranium may be present in the water source because of the nature of the rocks in the catchment, particularly in the granite areas. High levels may be harmful. Advice can be obtained from the Radiological Protection Institute (Tel: 01-269-766).

Where can you get further advice?

If you have any questions or want further advice about your unregulated private water supply, contact your local Sanitary Authority or the Environmental Health Officer at your local Health Board.