

RESILIENCE →))))))))) NEED TO KNOW GUIDE

Understanding Water Source Protection Zones

Definition and classification of Groundwater Source Protection Zones

Groundwater provides a third of our drinking water in England and Wales, 7% in Northern Ireland and 3% in Scotland. In some areas of Southern England, groundwater supplies up to 80% of potable water. The Environment Agency [EA] designates Source Protection Zones [SPZs] around these groundwater supplies. SPZs, together with the application of policies for preventing the pollution within them, are the keystone for the protection of these sources.

Source Protection Zones (SPZs) are defined by the EA (for England), Natural Resources Wales (NRW) (for Wales), and the Environment and Heritage Service (for Northern Ireland) for groundwater sources such as wells, boreholes and springs that are used for public drinking water supply. SPZs show the level of risk of contamination from activities on or in the ground that have a potential to cause groundwater pollution in the area and affect water quality at an abstraction. The Environment Agency has classified groundwater source catchments into four main zones:

Inner Protection zone (Zone 1):

SPZ 1 is the zone closest to the site of the well or borehole showing the area of highest risk. This zone is designed to protect against the effects of human activities which might affect the groundwater source, particularly against microbial pollution. SPZ 1 is defined by a 50-day travel time from any pollution below the water table to the groundwater source.

Outer Protection zone (Zone 2):

SPZ 2 is the area defined by a 400 day travel time from any pollution below the water table to the groundwater source.

Final Source Catchment Protection zone (Zone 3):

SPZ 3 is defined as the area around a groundwater source within which all groundwater recharge (whether derived from precipitation or surface water) is presumed to be discharged at the abstraction source.

Zone of Special interest (Zone 4):

SPZ 4 is defined as a surface water catchment, which drains into the aquifer feeding the groundwater source.

Source Protection Zone policies

SPZ 1 has been included in statutory guidance as the minimum area that is identified for the protection of drinking-water sources and is also recognised as an exclusion zone for certain potentially polluting activities listed in the Environmental Permitting Regulations.

In respect of businesses located over or near Inner Source Protection Zones (SPZ 1) the Planning System, Environmental Protection Act and Environmental Permitting Regulations are enforced to ensure the security of these water sources and will influence:

- construction;
- land usage;
- discharges, both intended and accidental;
- some support activities that may pollute – including ie firefighting.

Particular relevance might apply to businesses involving Farming, Waste Management, Chemical manufacture/storage, and Mining.



Firefighting:

In areas known to heavily dependent upon underground drinking water supplies such as Cambridgeshire, Norfolk and Suffolk, there are indications that the fire services might be prevented from using normal firefighting tactics over SPZs and, on instruction from the Environment Agency, adopt 'let-it-burn' policies. Failure to do so could, and has, seen involved parties in court.

Recommendations:

- If the report shows your business may be near an SPZ 1 it is essential you make contact with your local Fire Service, the Environment Agency, and your insurer to discuss whether there are any ramifications for your normal day-to-day or exceptional business operations.
- You should undertake an environmental assessment of your business and associated activities to identify potential areas that could lead to contamination by primary means (ie escape of chemicals) or secondary means (ie firefighting).
- You should identify measures that will act to limit the possibility of contamination of underground water supplies and enhance the capability of first responders, such as the fire service, to assist. Such measures might include:
 - a comprehensive pollution prevention plan;
 - fire protection and prevention measures;
 - limits on material storage;
 - bunded storage systems;
 - drain and gully sealing systems;
 - stream bunding and catchment methods.

For further information please see:

<https://www.groundsure.com/news/groundwater-abstraction-source-protection-zones/>

