

Protecting private water supplies during forestry activities

Guidance published through the Forestry & Water Scotland initiative www.forestrywaterscotland.com



This guidance outlines the steps to be taken by forest managers and contractors before, during and after activities in areas that contain private water supplies (PWS). PWS are water supplies and assets that are not connected to a source or infrastructure maintained by Scottish Water (which are known as public water supplies).

Reasons to protect PWS

PWS exist throughout Scotland and serve homes, businesses and schools (<http://dwqr.scot/private-supply/>). Any treatment that the water receives before it is used (such as settlement, filtration or UV treatment) is through equipment that can be easily overloaded or damaged, making it vulnerable to disturbance and contamination from forestry operations.

It is a legal offence¹ to contaminate a drinking water supply. To comply with legislation and the UK Forestry Standard (UKFS), forest managers and contractors should follow the UKFS and the extra precautions in this guidance to ensure PWS are protected.

If good practice is not followed, two types of risk can increase:

- Reducing the yield of a water supply;
- Polluting a water supply - cultivation, drainage, road construction and harvesting cause ground disturbance which can significantly increase pollution and reduce the effectiveness of treatment. Chemicals, fuel oils and lubricants can also cause pollution.

What to protect

PWS can abstract water from a stream, spring, well or borehole, and usually consist of a series of pipes and tanks feeding one or more properties.

A PWS needs protecting from forestry machines and vehicles damaging its infrastructure, and from forestry operations on land that drains to the water supply causing pollution or reducing water flow. Small supplies are especially vulnerable to flow diversions caused by single drains or cultivation channels.

They can be difficult to locate. The boundaries of stream or surface water supplies are usually easy to identify based on local topography, but those involving the flow of groundwater to springs, wells and boreholes are more difficult to define. FCS guidance on identifying the presence and extent of groundwater dependent terrestrial ecosystems may be helpful here (see <http://www.confor.org.uk/resources/forestry-water-scotland/guidance-documents/>)

The key to protecting a PWS is to minimise disturbance to soil and watercourses.



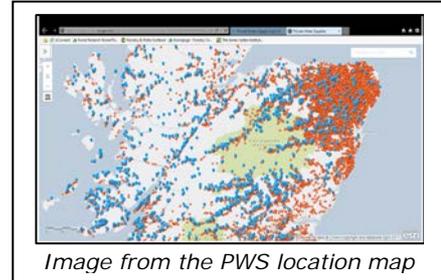
¹ The Water Intended for Human Consumption (Private Supplies) (Scotland) Regulations 2017

Guidance for forest managers

Forest managers must prepare fully before seeking plan approval, before the pre-commencement meeting and before contractors begin work. Remediation can be costly in financial, environmental and reputational terms.

Step 1: Be rigorous in identifying if a PWS could be affected

- Use the indicative PWS location map at <http://dwgr.scot/private-supply/pws-location-map/>
- Contact the local authority Environmental Health department to access their PWS public register. Use this to check the location of a supply, and its water demand and water quality.
- Ask local land occupiers and neighbours if they use a PWS and where its source is. Keep a record of the outcome of these discussions.
- Survey the site to identify which land feeds the abstraction point, and any unmapped water sources. A useful survey sheet is available at www.sniffer.org.uk/wfd95-a-functional-wetland-typology-for-scotland.



Step 2: If works are to be on land that drains to a PWS, assess the risks and identify suitable protection measures

- a. Consider how vulnerable the supply is, in particular:
 - The pathways that water takes on site (surface and groundwater),
 - Any existing issues with the condition and sufficiency of the supply (e.g. old, weaker PWS might be at higher risk from large forestry machines),
 - Potential soil disturbance (soil type, activity and machinery),
 - If chemicals, fuel oils or lubricants will be used.
- b. Determine what measures will minimise risks and protect the supply - follow guidance in the UKFS for this. **Abstraction points must be protected completely from any impact of forestry operations.** Use at least the minimum UKFS buffer widths, noting:
 - Where abstraction is from surface or ground water, the 50 m buffer refers to the area upslope or upstream of the abstraction point because this is a particularly sensitive area where works could be damaging.
 - Where abstraction is from a well or borehole, the 50 m buffer is a circular area with the abstraction point at the centre.
- c. Identify contingency measures, e.g. if there is scope to move the supply to another source or connect to the public supply should things go wrong.
- d. Where water quantity is an issue, avoid planting conifers on land draining to the supply because they reduce water yield more than broadleaves, shrubs or open space. Broadleaves can also provide long-term protection of water supplies. There is useful guidance at www.forestresearch.gov.uk/research/forest-hydrology/forest-hydrology-how-much-water-do-forests-use/.
- e. Seek input in the following ways:
 - The local SEPA office for advice on pollution prevention, mitigation and monitoring during operations.
 - Scottish Water for advice on whether a temporary or permanent connection to the public water supply is a practicable option.
 - The local authority Environmental Health Department to agree an emergency plan in the event of a pollution incident. They may request further information to address concerns about potential impact on the PWS.
 - If needed, Forest Research for advice on identifying water catchments and managing impacts.
 - Then discuss with the local FCS office what precautions will be in the site plan.

Step 3: Seek approval for your plan

- The plan should now include all information about the PWS and intended protection and contingency measures, ready to be submitted to FCS for approval.

- Once approval is received, notify all owners and users of the PWS of the planned activities and their timing.
- If they requested it at consultation stage, send the local Environmental Health Department a copy of your pollution emergency plan.

Step 4: After operations are completed

- Check that the water supply has been restored and arrange with the local Environmental Health Department for it to be tested for compliance with the Private Supplies Regulations.

Guidance for contractors

Carefully monitor the site to ensure plans and special working measures are followed. Follow the UKFS and these measures.

Before starting operations

- At the pre-commencement meeting, discuss with the works manager what protection measures are in the approved plan, what resources are available to deliver them, and who is responsible for what. This includes who is responsible for implementing any special protection measures.
- Ensure that the boundaries of the land draining to the water supply, protective buffer zones, and all assets such as abstraction points, pipes and tanks are clearly mapped, and where appropriate, marked on site.
- Ensure everyone understands that the area drains to a PWS, and follows the site plan.
- Have to hand the Forestry & Water Scotland 'Know the Rules' booklet.
- Make sure there is a spill kit in all vehicles and/or on site.

Extra precautions on land that is near to, or drains to, a PWS

- Inside the buffer, no machinery access unless absolutely necessary and only then with additional water protection measures in place.
- No handling or storage of chemicals and oils on land that drains to the water supply.
- On harvesting sites:
 - clear all brash from the buffer area upslope of a spring abstraction point,
 - no brash heaps or main extraction routes within buffers,
 - no brash in streams.
- On restock sites use a minimum buffer width of 10m for chemical use.

Pipes, drains and roads

- Do not allow sediment and debris to block intakes.
- Keep a 5 m buffer along either side of a pipe.
- Avoid crossing pipes. If this is absolutely unavoidable, use a log bridge for larger pipes and steel plates for smaller pipes.
- If a pipeline is disturbed or broken, repair as soon as possible and inform the local Environmental Health Department.
- Do not ford across a watercourse.
- Do not excavate tracks, drains or borrow pits if the source is a shallow spring flow.
- For water-bound roads and tracks, use inert materials with low erodibility.
- Maintain site roads and access routes.

For further guidance on good practice forestry near water visit
www.forestrywaterscotland.com

**In the event of a pollution incident contact SEPA immediately on
0800 80 70 60**