

Sustainable Support

Measures that support individuals and communities using private water supplies to meet minimum water quality requirements

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Executive Summary

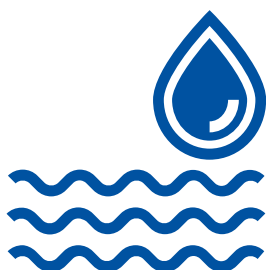
Private water supplies in Scotland are owned and managed by individuals, rather than by the public water supplier Scottish Water. Located mostly in rural or remote areas, at the time of research, there were 22,269 registered private water supplies in Scotland¹ and approximately 3.6% (195,961 people) of the population relying on private sources. Within some geographical areas, this proportion can be as high as 32.7% of the population, such as in Argyll and Bute.

Those responsible for private supplies bear the full burden and cost of ensuring that they are treated, monitored, and maintained correctly. At times, the cost of achieving compliant water quality can be high. Unregulated² supplies remain largely untested and therefore the quality of water and its treatment can at times be a 'best guess'.

The first point of contact for support and advice for those managing supplies is the local authority. However, the duality of local authorities' role, which includes support and enforcement, does at times, dissuade those that are responsible for managing supplies from engaging. Many users therefore turn to family or community members for advice and support, contractors, or are largely left to their own devices.

In partnership with the Drinking Water Quality Regulator (DWQR), Citizens Advice Scotland (CAS) commissioned Ipsos MORI to carry out a qualitative study. This was designed to get underneath common perceptions and gain insights into some of the issues around the type of support needs of individuals and communities reliant on private water supplies.

Based on the research findings, this report explores and presents the attitudes and beliefs of those responsible for maintaining private water supplies, and the gaps in available support that could lead to improved drinking water quality. To this end, and together with previous studies³ into private water supplies, CAS's recommendations set out a series of interventions and measures that support individuals and communities on private water supplies to meet minimum water quality requirements.



Sustainable Support

Measures that support individuals and communities using private water supplies to meet minimum water quality requirements.

¹ Drinking Water Quality Regulator for Scotland (2018). Drinking Water Quality in Scotland 2017 – Private Water Supplies. Annual Report. Available at: <http://dwqr.scot/information/annual-report/>.

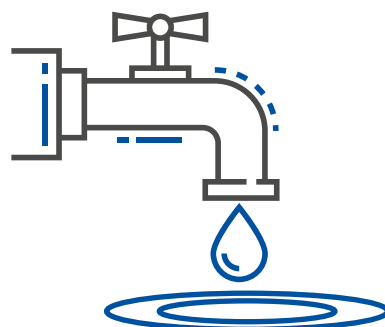
² Footnote 6

³ Teedon, P., Currie, M., Helwig, K., and Creaney, R. (2017) Engaging communities around private water supplies. CRW2014_12. Available at: <https://www.crew.ac.uk/sites/default/files/sites/default/files/publication/Engaging%20communities%20around%20Private%20Water%20Supplies.pdf>; Citizens Advice Scotland (2018). Testing the waters: Assessing information on private water supplies and sewerage facilities. Available at: <https://www.cas.org.uk/publications/testing-waters-assessing-information-private-water-supplies>

Summary of conclusions

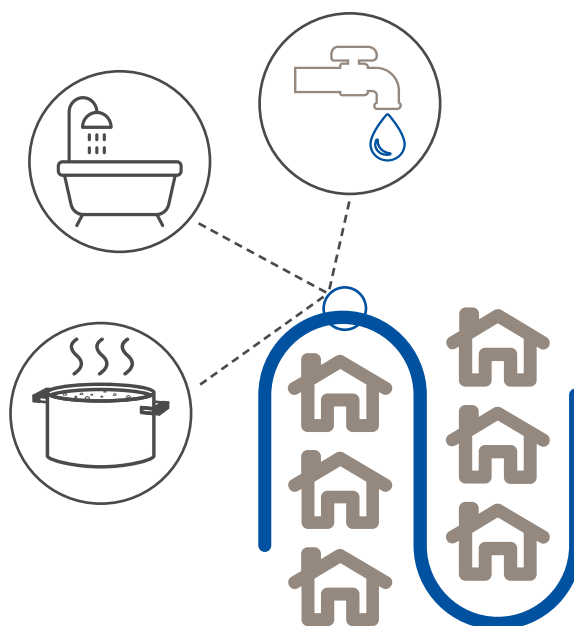
Those responsible for managing private water supplies face a range of complex issues. Any aspect, if it does not address their needs adequately, can result in unsafe drinking water. Official and unofficial advice and support available to those managing a supply is broad and is not always comprehensive. Factors that influence individual choices could still leave communities and businesses at risk of health issues or commercial vulnerability.

1. There is no comprehensive beginning to end support framework in Scotland for those managing private water supplies.
2. Local authority support varies widely from area to area. Gaps in support result in supply owners turning to their own devices.
3. There is some evidence of positive partnership working between owners and local authorities.
4. Awareness of local authorities' advisory role is poor.
5. Local authorities' enforcement role can result in some private water communities keeping 'below the radar' and missing out on advice and information.
6. Insufficient knowledge, information, and skills lead to inappropriate and inadequate treatment, monitoring, and maintenance of supplies.
7. Risk assessments are an important tool to help those on regulated supplies understand and more effectively manage their supply.
8. Further research into whether communities are aware of, comprehend, and can appropriately act upon, the results of their risk assessments would provide insight into its effectiveness.
9. Treating and maintaining supplies can be expensive; for many it can be unaffordable and can lead to choosing between financial security or protecting health.
10. Identifying suitable water treatment is complex and can be expensive; often further investment is required later at significant cost.
11. Using contractors to install or maintain water treatment can be expensive and does not guarantee compliant water. Securing redress can be problematic when work is not delivered to a satisfactory standard.
12. Relationships amongst community members can be problematic and can lead to a breakdown in maintenance regimes.
13. Many communities are vulnerable to water shortages, as demonstrated during the summer of 2018. Seasonal usage increases during the tourist season, which can compound this.



Summary of recommendations

1. A comprehensive and consistent framework of support is required to skill and equip private water communities to improve their water supply to a compliant standard.
2. Mechanisms to provide appropriate and accessible information, advice and training to supply owners, are required to improve their understanding, awareness, knowledge, and skills of how to adequately and appropriately manage their supply.
3. The availability of affordable and appropriate water treatment systems that can treat different types of raw water is essential. This must be combined with support to ensure that owners spend their money on the right choice of water treatment.
4. Clear guidelines and consistency in eligibility for grant funding and frequency of payment should be made available to those responsible for managing private water supplies.
5. Where appropriate to do so, Scottish Water should provide appropriate help and support to facilitate private supplies to connect to the mains supply.
6. Minimum and consistent standards of advice and support should be provided by local authorities to private supplies. Effective engagement will improve trust and cooperation between each party. A better understanding of the support role of local authorities will encourage communities to work more positively with their local council without undue concern of repercussions.
7. Further consideration should be given to minimise situations that lead to water scarcity, such as group schemes or water safety planning.
8. Consideration should be given to conducting further research into:
 - > Community awareness of risk assessments;
 - > Risk assessment results, how easy they are to understand and how they are communicated to communities across local authority areas;
 - > What actions are taken by communities in response to risk assessment results;
 - > What more could be done to improve the effectiveness of risk assessments as a tool to support private water supply improvements.



1. Introduction

1.1 Citizens Advice Scotland

The Impact Team at Citizens Advice Scotland (CAS) uses research and evidence to put consumers at the heart of policy and regulation in the water sector in Scotland. We work with government, regulators and business to put consumers first, designing policy and practice around their needs and aspirations. Our advocacy work is underpinned by a set of seven consumer principles (Appendix).

One of our core policy areas is to promote access for rural consumers to essential services. This involves advocating the development of Scottish Government strategies to improve support for rural communities to maintain their water supply to a minimum standard so that it is safe to drink.

1.2 Private Water Supplies in Scotland

Scottish Water owns and manages the public water network that provides most of Scotland's population with water and wastewater services. Water supplies that do not form part of the public network (private water supplies), are owned and managed by individuals or communities. These include wells, springs, burns or boreholes.

During the time of research⁴, there were 22,269 registered private water supplies in Scotland, serving approximately 196,000 people at home and work in predominantly rural areas⁵. Supplies also provide water to many visitors, particularly

during the holiday season. Approximately 3.6% of the Scottish population relies on private water supplies on a daily or regular basis. Within some areas of Scotland however, this proportion is considerably greater (Argyll and Bute 32.7%).

A persistent problem for many private supplies is that they regularly fail to meet the minimum water quality compliance standards. This increases the risk of health-related issues. For example, in 2017, 4.91% of all tests carried out for regulated supplies⁶ and approximately 12% of all tests conducted for unregulated supplies⁷ did not comply with the minimum water quality standards⁸. E. coli (an indicator of faecal contamination and can cause serious illness in humans) was found in 11% of samples taken from regulated supplies in 2017.

1.3 Current Legal and Enforcement Framework

Legislative instruments determine water quality standards for Scotland. They define responsibilities for those managing private water supplies and relevant public bodies. However, legislation needs to be supported by intervention and regulation. Therefore, to effect its implementation and improve water compliance levels, the 2017 regulations contain a number of provisions aimed at strengthening the enforcement powers of local authorities for regulated supplies⁹.

⁴ 2017-18

⁵ (At the time of research) DWQR (2018). Drinking Water Quality in Scotland 2017: Private Water Supplies. <http://dwqr.scot/media/39966/dwqr-pws-annual-report-2017-compiled-report-final-24-september-2018.pdf>.

⁶ Supplies providing water to 50 or more people, more than 10m³ daily, or as part of a commercial or public activity (such as businesses, public or third-sector organisations). They are covered by The Water Intended for Human Consumption (Private Supplies) (Scotland) Regulations 2017, which replaced the Private Water Supplies (Scotland) Regulations 2006 in late October 2017. Regulated supplies were referred to as Type A supplies in the 2006 Regulations. The 2017 Regulations are available at: <http://www.legislation.gov.uk/ssi/2017/282/contents/made>.

⁷ Supplies providing water to less than 50 people, supply less than 10m³ per day, and only provide water to non-commercial properties (unregulated supplies) are still covered by The Private Water Supplies (Scotland) Regulations 2006, which is available at: <http://www.legislation.gov.uk/ssi/2006/209/contents/made>.

⁸ 2,280 failed out of a total of 46,470 tests conducted on regulated supplies. Of the 13,432 tests completed for unregulated supplies, 1,629 tests failed. DWQR (2018). Drinking Water Quality in Scotland 2017: Private Water Supplies. <http://dwqr.scot/media/39966/dwqr-pws-annual-report-2017-compiled-report-final-24-september-2018.pdf>.

⁹ The Water Intended for Human Consumption (Private Supplies) (Scotland) Regulations 2017, addressing regulated supplies, is now in force. At the time of writing, there are no plans to change the 2006 regulations pertaining to unregulated (formerly Type B) supplies.

Local authorities have a statutory duty to conduct five-yearly risk assessments and to test water quality, at least annually, for regulated supplies (2017 regulations). If a supply fails a water test, local authorities can serve a notice on the owners and enforce measures to improve water quality to the minimum standard.

Unregulated supplies are risk assessed and tested by local authorities only when requested to do so by the supply owner or user. In addition, local authorities have a duty to provide advice and support to those reliant on, or responsible for, private water supplies, when requested to do so.

The Drinking Water Quality Regulator for Scotland (DWQR)¹⁰ supervises and supports local authorities in their work regarding private water supplies.

1.4 The Cost to Serve

Consumers receiving their water from the public water supply pay a fixed cost contribution to Scottish Water, based on their Council Tax band, to cover the cost of providing water and sewerage services to their community.

However, those on private water supplies are liable for the full cost of ensuring that water meets the minimum quality standards, as set by the Scottish Government. In the event of a test failure, owners of private supplies must act to address water quality issues by adding to, maintaining or replacing water treatment systems at their own expense. These costs can be substantial: an average of £1,610 capital costs and £3,300 per year in maintenance per

supply¹¹, although many pay a lot less. This is more efficient where there are a larger number of properties using the supply and sharing the cost. However, this is not always the case and often a small number of properties foot high bills to maintain a supply.

Local authority grants are available to improve the quality of their supply.

1.5 Policy to improve private water supplies

Policy Initiatives

The Scottish Government established a Rural Provision Working Group¹², comprising of key water sector stakeholders¹³, to “assess [...] options available to improve compliance”¹⁴ of private water supplies within the relevant statutory regulations.

The Group recognised several issues that required to be addressed, such as: the impact that poor water quality and unreliable water supplies can have on the local economy such as tourism or businesses; the need for more accessible information on the rights and responsibilities of those using private water supplies; and further exploration of measures to help private water communities improve their water quality, including the potential of exploring a possible role for Scottish Water in serving private water communities. Research to inform this the group was initiated.

¹⁰ The Drinking Water Quality Regulator regulates the public water supplier Scottish Water and supervises local authorities’ regulation of Scottish private water supplies to ensure that drinking water in Scotland is safe.

¹¹ These figures constitute the average cost of a treatment system included within Scottish Water’s Decentralised Project which is trialling treatment technologies that have a strong market presence in the UK, and reliable processes for removing organics and metals. The capital costs of the systems included range from £350 to £5,000; maintenance costs per annum range from £242 to £21,000. The trials were conducted with raw water containing very high levels of organic matter. The maintenance costs are suggested costs only. Depending on the raw water characteristics of other private water supplies, maintenance can be less costly. Costs for treatment and maintenance of a given supply may be shared between a few properties.

¹² Superseded by the Scottish Government Private Water Supply Working Group (2020)

¹³ Members included the Water Industry Commission for Scotland (WICS), the Scottish Environmental Protection Agency (SEPA), Scottish Water, the Drinking Water Quality Regulator for Scotland (DWQR), as well as CAS.

¹⁴ Rural Provision Working Group, Terms of Reference May 2014. Not publicly available.

CREW Research

In 2015, CREW¹⁵ conducted research into communities' attitudes and concerns regarding their private water supplies¹⁶. Research concluded that those using private water supplies:

- > are aware of water quality and reliability issues; but
- > possess a varying degree of knowledge and awareness regarding the appropriate maintenance of treatment systems, testing regimes, managerial responsibilities, health risks and available support, such as technical knowledge and skills, financial support, and information; and
- > can be prohibited from investing in the improvement or maintenance of their supplies by high or unpredictable costs.

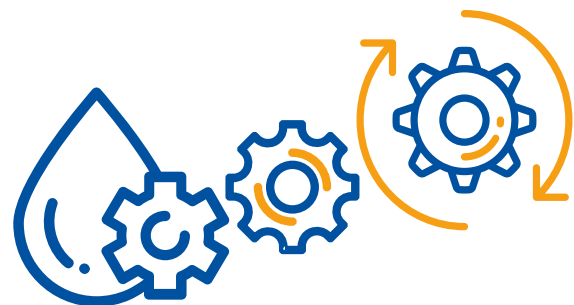
The findings evidenced the need for private water communities to develop greater knowledge, skills and financial capability to maintain their water quality to a safe standard. Furthermore, support and engagement from responsible public bodies is required to develop bespoke solutions for supplies. It concluded that adequate and appropriate support can lead to greater self-sufficiency within a community. This will support water supplies to become compliant on a more sustainable basis.

CAS Research

In 2016-17, CAS research investigated the availability and accessibility of information on rights and responsibilities for those on private water supplies¹⁷. It found that essential consumer information exists, but that it is often difficult to access in relation to language or where it is stored e.g. online. It concluded that access to information needed to improve.

In response, in 2017 the Scottish Government launched an online information hub¹⁸, in Plain English, for private water owners and users. The hub provides essential information on water treatment and supply maintenance, health risks from drinking poor quality water, and consumers' rights and responsibilities.

Further research was carried out during 2017-18 by CAS, in partnership with DWQR to identify support mechanisms that meet the needs of those reliant on private water supplies. This report sets out the findings and recommendations from the research, which will inform Scottish Government policy development.



¹⁵ Scotland's Centre of Excellence for Waters (CREW) is a partnership between the James Hutton Institute and Scottish Universities, funded by the Scottish Government. To date CREW has conducted five research projects in conjunction with the Rural Provision Working Group.

¹⁶ Teedon, P., Currie, M., Helwig, K., and Creaney, R. (2017). Engaging communities around private water supplies. CRW2014_12. Available at: <https://www.crew.ac.uk/sites/default/files/sites/default/files/publication/Engaging%20communities%20around%20Private%20Water%20Supplies.pdf>. The project was coordinated through the Sustainable Rural Communities Steering Group of water industry stakeholders and researchers.

¹⁷ Technical report available on request. Insight report: Citizens Advice Scotland (2018). Testing the waters: Assessing information on private water supplies and sewerage facilities. Available at: <https://www.cas.org.uk/publications/testing-waters-assessing-information-private-water-supplies-and-sewerage-facilities>.

¹⁸ The information hub can be accessed at: <https://www.mygov.scot/housing-local-services/water-supplies-sewerage/private-water-supplies/>.

2. Methodology

The study was designed and commissioned by CAS, in partnership with the DWQR, and research was carried out by Ipsos MORI during 2017.

2.1 Participant Recruitment

Sampling took place within five local authority areas with high numbers of private water supplies: Aberdeenshire, Argyll and Bute, Highland, Orkney, and Stirling. Potential participants were identified from a database of Scottish properties with a registered private water supply. Those who opted into the study were contacted by telephone to confirm eligibility and to arrange an interview.

2.2 Sample and Data Collection

The sample was composed of 61 participants. Data collection took place between 11 September and 3 October 2017. The researchers conducted one-to-one in-depth interviews with 20 consumers who own and use non-domestic private supplies, as well as 17 one-to-one in-depth interviews and four focus groups (with 24 participants in total) with those who own and use domestic supplies (all unregulated supplies).

The interviews and focus group discussions were based on discussion guides, which Ipsos MORI developed together with CAS and the DWQR. The guides covered five main areas:

1. initial views on private water supplies;
 2. satisfaction with private water supplies, including water quality, quantity/reliability of supply, maintenance of supply as well as relationship with other users;
 3. awareness/ experience of existing types of support;
 4. support needs; and
 5. views on, and priorities regarding, other possible types of support and advice, some of which are available in other European countries (e.g. training schemes for private water users run by local authorities, a national organisation for private water supply users in Scotland, group water schemes, or an online information hub).
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2.3 Data analysis

The researchers analysed interview transcripts and interviewer notes to identify substantive themes relating to the discussion guide questions.

Due to the qualitative nature of the data, the analysis does not reflect a comprehensive position. Rather, it offers insights into recurring themes and issues, thereby providing an evidenced basis to inform recommendations.



3. Research findings

3.1 Relationships between private water supplies and Local Authorities

3.1.1 Dual Role of Local Authorities

Local authorities play an important role in assuring that private water supplies meet minimum water quality standards. However, the extent of the support they can offer depends on the number of supplies within their area, budgets and staff numbers.

Regulations¹⁹ set out local authorities' dual responsibilities regarding private water supplies:

Enforcement

Local authorities have a duty to enforce water quality standards for regulated private water supplies. A source to tap risk assessment is conducted at least once every five years.

Water quality in regulated supplies is tested annually to check for compliance. In the case of a failed test, local authorities have a duty to ensure that remedial actions are taken by owners to improve the water quality to a sufficient standard. If the responsible party²⁰ fails to act, they may be served with an enforcement notice. If they fail to act upon the notice, the local authority may make improvements to the supply and recover any costs. In extreme cases, if a situation leads to prosecution, a fine may be levied by a sheriff court to the responsible party for non-compliance.

Advice and support

Local authorities are expected to provide advice and support to those responsible for managing²¹ both regulated and unregulated water supplies. A grant of £800 per property can be applied for to improve private water supplies or to find and commission a better quality water source. However, the grant cannot be used to cover costs associated with maintaining a supply or connecting to the mains.

The duality of local authorities' role can result in a perception by those on private supplies that any approach they make for advice and support may result in enforcement action and investing significant sums to improve their water supply. Such a concern deters them from contacting their local authority and drawing attention to their water supply. Consequently, they miss out on essential advice and support, such as the grant.

"I've never even investigated any grants for it or any payments for it because then the Council have to come up and inspect it and check it don't they? This is what puts me off it. If they start interfering ...and it ends up costing you more than what you actually get for the grant."

(Domestic user, unregulated supply)

It is unclear how many unregistered supplies there are in Scotland, and how many of these should be regulated by local authorities. A misunderstanding of a local authority's role may lead private water owners to believe that engagement with a local authority leads to a loss of autonomy. This causes some to "fly under the radar" and fail to register their supply.

¹⁹ The Private Water Supplies (Scotland) Regulations 2006 for unregulated supplies, and The Water Intended for Human Consumption (Private Supplies) (Scotland) Regulations 2017 for regulated supplies.

²⁰ In the regulations, those who are responsible for maintenance and treatment of a private water supply are called 'relevant persons' and are designated by the local authority.

²¹ This does not include a duty to provide publically available information, e.g. on a website, on the treatment, and maintenance of private water supplies. Consequently, the comprehensiveness, quality and accessibility of information provided by local authorities, e.g. online, vary greatly.

“The less I have to do with the Council the better... Everybody’s very wary of the Council taking over our water supply. So we’ve more or less kept a very low key.”

(Domestic user, unregulated supply)

Local authorities could consider a more proactive programme of engagement with private water communities. At a basic level it would help to ensure they receive the advice and support they need. It would be important for local authorities to emphasise that advice and support will come first, and that enforcement is a last resort, to support the development of better working relations with communities. However, where a supply is failing badly, local authorities may need to take stronger action.

3.1.2 Access and availability of local authority support

There is a significant variation in the availability and quality of advice and support provided to private water communities across local authority areas in Scotland. Not all communities that approach their local authority obtain what they need. Some may doubt what they are told by their local authority.

“Consultants suggested that to me that [I] would be better not to involve the council because they may force you to do things that are not actually necessary.”

(Domestic user, unregulated supply)

3.1.3 Local authority service provision to private water communities

Limited local authority resources can result in delays to retesting a supply after a failure. In more extreme cases and depending on the size of the business, delays can result in “*significant financial impacts [on businesses depending on private water supplies]. These range[d] from the cost of having to install complex filtration systems or make significant improvements to their existing water plant; to losing business while waiting for the local authority to provide test results and/or carry out retests, and having to source and/or provide alternative water supplies in the interim*”²². Such issues are more likely to impact trust that businesses place in their local authority and could contribute to a breakdown in productive engagement.

“The person that came out [to test the water] didn’t seem to know what they were doing. They don’t seem to appreciate the impact a test failure can have upon businesses. If that fails, I’ve got serious problems. It can be very stressful.”

(Non-domestic user, regulated supply)

An appearance of inexperience by local authority personnel taking samples does not instil confidence within supply owners.

There is some concern amongst regulated supply users that sample-taking procedures are not followed correctly. As a result, they believe that test results are wrongly failed, which may force them to invest in their water treatment systems unnecessarily.



²² Ipsos MORI (2018). Support systems for people reliant on private water supplies. An Ipsos MORI Scotland report commissioned by the Consumer Futures Unit in partnership with the Drinking Water Quality Regulator for Scotland, p. 17. Available upon request.

Research findings

Such views may result in supply owners disbelieving and dismissing recommendations to improve their maintenance or treatment regime.

“We failed the water test, but we didn’t think there was anything wrong, so we just kept drinking it.”

(Domestic user, unregulated supply)

Conversely, users may still lack confidence in the result even when their supply has passed. This leaves a lingering concern for the health of their family, staff or customers.

3.2 Level of Knowledge, Skills, Information and Treatment

The responsibility for maintaining and treating a private water supply to a minimum standard lies with those who own it. However, fulfilling this duty can be challenging, partly due to the complex characteristics of the water within the supply:

- > Across Scotland, raw water characteristics greatly vary due to the material it passes through (e.g., rocks and soil). Different raw water sources require specific treatment to address issues (organics, bacteria, etc.), to ensure water consistently reaches a safe standard. Sources of man-made contamination may also be present.
- > Water quality fluctuates over time, for example, heavy rainfall washing contaminants into the supply. Treatment systems may not be able to cope with extreme variances in water quality.
- > Many private water supplies are vulnerable to events that result in a shortage of water, such as long periods with no rain or increased water usage during tourist season. Communities may be left managing a dwindling supply or worse: without access to drinking water.

One or several factors can increase the likelihood of those on private supplies consuming unsafe water or becoming vulnerable to insufficient supplies.

3.2.1 No universal treatment system available for all raw water types

Not all commercially available treatment systems can address every raw water type. Installations may remedy some specific water quality issues but not all, which could lead to a supply failing. Those responsible for managing a private supply may not understand what is required to address specific raw water characteristics when selecting treatment and may purchase an unsuitable system.

“One year we did find a whole dead sheep in one of [the streams]. . .[so] we’ve got a filtration [and] a lot of stockings as well.”

(Domestic owner, unregulated supply)

Intensive and expensive maintenance, such as excessively frequent filter replacement, may not be sufficient to ensure that primary systems treat water to an appropriate standard.

3.2.2 Addressing water quality issues

Those on a private supply may be unaware that their actions are failing to achieve a minimum standard, despite believing otherwise.

“Oh, the taste, smell, colour, and actually all its quality aspects are far better [than mains water].”

(Non-domestic owner, regulated supply)

Many have experienced minor quality issues, such as discolouration, yet are unaware of more harmful pollutants, such as metal or bacterial contaminants, that cannot be seen or tasted. Most tend to rely on their senses to assess water

quality rather than scientific measures. If they deem their water safe based on what they can see, smell or taste, they will continue to drink it.

Those who are concerned about their water quality may take additional measures, such as boiling water before use, to kill bacteria. However, this may be insufficient to deal with contaminants such as chemicals e.g. manganese and may leave them exposed to unsafe water and associated health risks.

3.2.3 Indifference towards water quality

Some supply owners are indifferent towards the quality of their water; poor quality water is often viewed as ‘wholesome and natural’.

“I’m not too bothered about E. coli, it’s a natural organism, we’ve all got it in our gut anyway, but the things that would potentially concern me more would be something like aluminium.”

(Domestic user, unregulated supply)

Local authority engagement may inadvertently reinforce these attitudes. For example, testing water quality at the tap can be viewed as definitive. A ‘source to tap’ discussion with supply owners may more effectively highlight raw water contaminants and how these can be managed. Education of those that manage supplies would be more successful if focused on the wider supply catchment and storage area, and additional measures to protect it.

3.2.4 Impact of poor water quality on existing health conditions

Drinking unsafe water may exacerbate existing health conditions. Additionally, health related issues from drinking poor quality water can

remain undiagnosed for long periods of time or be attributed to other causes.

“I was ill; very ill, actually, to the point where I was reduced to a wheelchair, and eventually the [doctor] suspected the possibility of organophosphate poisoning.”

(Domestic user, unregulated supply)

3.2.5 Lack of accessible and comprehensive information and resources

Local authorities are expected to provide publicly available information on private water supplies. However, previous CAS research²³ showed that even if information is made available, some people may still not be able to access it (poor IT literacy skills or not online).

“Not just sticking it on a website.... It would be quite handy if something went wrong there was a phone number so you could actually phone somebody up... Not everybody is computer literate, I’m not.”

(Domestic user, unregulated supply)

Additionally, online information from local authorities and the Scottish Government may not be well signposted.

For many rural communities, poor internet connection is common and may restrict or frustrate access.

Improved access to essential information using non-digital communication methods would increase awareness of water safety standards and available treatment options.

²³ Citizens Advice Scotland (2018). Testing the waters: Assessing information on private water supplies and sewerage facilities. Available at: <https://www.cas.org.uk/publications/testing-waters-assessing-information-private-water-supplies-and-sewerage-facilities>. Technical report available on request.

Research findings

3.2.6 Lack of capacity

Some community members, particularly the elderly or those new to an area, may lack the physical capacity or technical expertise to maintain and treat their water supplies to a safe standard. Many are reliant on securing the right expertise and knowledge locally, however, this too can be problematic.

Generally, there is a heavy reliance amongst private water users on friends, family or neighbours for technical support and practical help when needed. An absence of adequate knowledge or skills, however well intended, coupled with infrequent or no water quality testing, is more likely to result in insufficient water treatment going unnoticed for long periods of time.

Communities do however recognise that for some groups of users, additional support is needed:

“There are older folk in the community who are more vulnerable and possibly their supply is not protected or looked after. So it might be beneficial as a community to have some kind of private water supply support.”

(Non-domestic user, regulated supply)

3.2.7 Limitations of contractual support

If consumers cannot turn to family or neighbours, they may resort to external professional, and potentially expensive, contractors to maintain and treat their supply.

“It’s very hard to know who else [in the community] has got private water supplies. It’s one of those things you actually don’t know... You are a bit isolated.”

(Domestic user, unregulated supply)

Finding a contractor can at times be challenging or, in some situations, impossible. This leaves some households or communities without professional support for treating and maintaining their supply.

“Actually finding [a contractor] on the internet was a bit difficult. The first one I got was a guy in Perth. I phoned the guy he goes, ‘No, no, we just design systems, we don’t fit them, we just pass them on to our suppliers’. So, he gave me a list of his suppliers, none of who would come and help me on such a paltry job.”

(Domestic user, unregulated supply)

No definitive list of accredited contractors exists for those are looking for support to maintain and



treat their supply. Some rely on word of mouth to find capable and trustworthy service providers. However, supply owners often lack the technical knowledge and skills necessary to verify the quality of a contractor's work after completion. This escalates the risk of paying for services that are sub-standard.

Furthermore, contractors can be expensive, and in extreme cases charges could trigger financial vulnerability. If contractual services are unaffordable, some may have no choice but to continue drinking poor-quality water.

3.3 The Cost of Maintaining and Treating Private Water Supplies

In order to ensure money is spent on the right solution, it is essential that water quality issues are understood. Additionally, adequate treatment must be affordable to be effective.

3.3.1 Local authority grants

Local authorities in Scotland offer improvement grants of up to £800 to domestic properties served by a private water supply. However, awareness of these grants could be improved.

Supply owners feel that the grant could do more to help them to treat, upgrade or maintain their water supply.

“To be honest the Grant didn’t even cover the VAT.”

(Domestic user, unregulated supply)

Grants of more than £800 will be considered in cases where the “eligible person could not, without undue hardship, finance the expense of the approved works without such a grant”²⁴.

However, awareness of this provision is even lower than of the basic grant amount.

Financial support from local authorities is limited to one single grant per property in any five-year period. Therefore, if a grant has been paid in the past against a certain property, a new resident will not be able to apply until the five-year period ends. In addition, the grant can only be used for improving a private supply or setting up a new supply and excludes maintenance work.

3.3.2 Unsustainable supplies

Water volumes within private supplies may fluctuate throughout the year. Supplies may dwindle or dry up during long spells of dry, hot weather. This situation can be aggravated or accelerated during the local tourist season when usage increases.

During the winter months, supplies can freeze, leaving no alternative water source.

Unsustainable water supplies are more likely to create vulnerability. Accessing alternative water sources, such as bottled water, may not always be possible due to remoteness or mobility. In addition, purchasing bottled water over a prolonged period can become expensive and may aggravate financial vulnerability.

“We have had no water for a while. I’m with kids, what am I going to do without water? I’m going up to [town] to get bottled water, and there’s no help for that.”

(Domestic user, unregulated supply)



²⁴ The Private Water Supplies (Grants) (Scotland) Regulations 2006, 8 (2). Available at: <http://www.legislation.gov.uk/ssi/2006/210/regulation/8/made>

Research findings

3.3.3 Sharing the cost

Shared community supplies present their own challenges. Many households are unclear of who is using their supply and therefore cannot share the cost of improvements to the supply. Furthermore, any opportunity to meet the cost of connecting to the mains may not be realised.

“The guy across the road told me it cost him £13,000 to connect to the mains supply at the bottom of the road. If he had told us he was doing it we probably would have shared the costs with him as would ten, twenty other people here.”

(Non-domestic user, regulated supply)

In many cases historic supply agreements determine who can use the supply and who is responsible for its maintenance and treatment. Agreements can be unfair, leaving some householders or businesses paying for testing and treatment, while others do not contribute enough, or even at all.

Residents, especially those who are new to the area, can find that a pre-existing agreement means that their property pays most of the costs. This is problematic if treatment and maintenance costs are high.

“This house is supposed to pay for two-thirds of the cost of running it and another house slightly up the hill pays the other third, and two other houses just use the water anyway....It will be historical... somebody decided this house was a certain size so it would pay most of the costs.”

(Domestic user, unregulated supply)

Often if both local businesses and households share a supply, it is the business that is expected to cover the costs of treatment and maintenance. For some businesses, paying these costs without the support of other users can strain finances and local relations.

Where community members are unable to agree on financial contributions, the maintenance regime for the supply is often impacted, and ultimately water quality deteriorates.

“We haven’t had any maintenance done in thirty years because we can’t get the neighbours to agree.”

(Domestic user, unregulated supply)

Other difficulties arise for those dependent on a supply they do not own, when the owner fails to adequately maintain it.

“The source is on someone else’s land. He never goes to any effort to remove [dead animals] from it. He doesn’t have any need or any incentive... But you don’t actually know your rights as to whether he shouldn’t have livestock [trampling] it and what can you do to protect it legally.”

(Domestic user, unregulated supply)

3.3.4 High treatment costs with no guarantee of improvement

Treatment can be expensive. For those electing to engage a contractor, often at significant cost to install water treatment, there are no guarantees that the treatment will improve water quality to a compliant standard.

At present, there is no accreditation scheme for contractors servicing private water supplies to certify competency, authority or credibility. Those purchasing systems or services therefore have limited protection from sharp practices, or indeed redress if their supply fails a water quality test. When things go wrong, they may prefer not to take any action, particularly if the contractor is a local business.

High costs may incentivise supply owners to select and install a treatment system themselves without external support. Lacking the necessary

²⁵ E.g., due to rainfall; ground water contaminants.

Research findings

expertise or advice, they are more likely to choose an unsuitable system or experience issues with its installation.

3.4 Testing and Treating Private Water Supplies

Water quality is variable and annual water tests are not representative of water quality all year round²⁵.

“See today you could take that away and test it and it would probably be fine. But there’s times when I’m thinking I wouldn’t serve that to anybody.”

(Domestic user, unregulated supply)

Many of those on unregulated private supplies have limited confidence in the validity of water quality tests.

“When we dug the new well, it was 3,750 times over the manganese limit which we were quite happy with because it’s not actually a health problem, so we just use the water quite happily.”

(Non-domestic user, regulated supply)

If consumers are unaware of the health risks associated with non-compliant water, the costs and inconvenience related to water tests and system management can seem unnecessary.

“People have lived [here] donkey years, never any problem, children, babies, all brought up [here]. So, [my neighbour] has her water tested and she’s told it’s not right. It cost her £1,800 to have this blinking great filter thing put in and the way it went near her kitchen, and near her water boiler, a huge obstruction in her house.”

(Domestic user, unregulated supply)

Additionally, tests are considered to be expensive, which could act as a deterrent to implementing a more robust risk management regime.



4. Conclusions

The findings section within this report sets out the issues and limitations related to existing support mechanisms and highlights where more needs to be done to improve private water quality for those reliant upon it.

4.1 No Comprehensive Framework of Support

There is no single ‘beginning to end’ support framework in Scotland for those managing private water supplies. All existing approaches to appropriately improve, maintain and monitor private water supplies carry some inherent risk.

i. Formal Support - Local Authorities:

The quality and effectiveness of local authority engagement with private water can be frustrated by:

- > unclear role and responsibilities;
- > inconsistent support to private water consumers across local authority areas;
- > lack of trust and confidence in local authority involvement;
- > perceived as primarily focused on enforcement rather than on support.

Much evidence exists of positive working relations between some local authorities and private water communities. However not enough is known about whether good working practices are shared between local authorities.

ii. Informal Support – Friends, Family, Community:

Advice from informal sources e.g. friends, family, or community members may be inaccurate. Whilst well intended, it could result in spending money on treatment that is ineffective.

iii. Self-Support: Those who choose to install treatment or maintain their own supply without adequate technical knowledge or understanding, will continue to be at risk of drinking unsafe water.

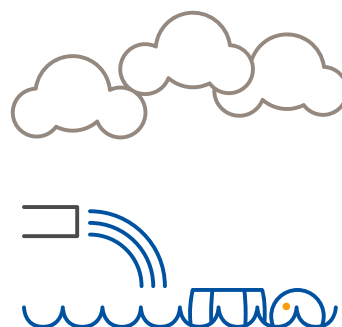
iv. Contractual Support: Engaging the services of a contractor is not always affordable and does not guarantee compliant water quality. A lack of accreditation may lead to substandard work, leaving supply owners out of pocket struggling to secure redress.

4.2 Low Awareness of Support and Advice

Awareness of who to engage for help and support is low among unregulated supplies. Support and advice are not always accessible in the most helpful way for users and more could be done to address this.

4.3 Use of Risk Assessment

The use of risk assessment is primarily limited to regulated supplies, although is carried out as a condition of applying for a grant for unregulated supplies. Little is known about its overall effectiveness, or indeed how it could be applied more widely to unregulated supplies. Consumers tend to assess risk in terms of having to spend money on treating their supply, rather than to mitigate health related issues resulting from drinking poor quality water.



4.4 The Cost of Treatment and Maintenance

The cost of treating a private water supply can be expensive and therefore a barrier or disincentive from adequately doing so. Low awareness of grant and funding restrictions may exclude those from financial help they need to improve the quality of their water.

Finding a contractor to select and install the right treatment system can be difficult. Securing redress in the case of something going wrong may be complex and expensive.

Businesses with a failed supply could face substantial losses if follow up test results are delayed.

The complexity of cost allocation and user relationships within a multiple party supply can hinder its effective management resulting in poor water quality.

Connection to the mains is, for many, a preferred choice and yet not attainable. Associated costs can be prohibitively high, or connection may not be viable for more remote rural properties.

4.5 Engagement and Information

Consumers living in remote rural communities have less access to contractual support.

Engagement between unregulated supplies and their local authorities is minimal and can be distrustful. In such cases, supply owners are less likely to be aware of available help and support, or unwilling to engage with it.

Information provided by manufacturers on the suitability of their products to treat water may be misleading, resulting in consumers spending money on solutions that are ineffective.

4.6 Lack of Resilience

Many private water communities have no contingency in place when their supply runs out. This can lead to an immediate change in personal circumstances and to individual and community vulnerability. The continued viability of such a community in such circumstances becomes wholly dependent on public bodies providing tankered or bottled water, although there is no statutory requirement for them to do this without passing on the full cost.





“CAS research indicates that sustainable improvements in water quality will only come about by coordinating and improving advice, information and technical support for all businesses, communities and individuals that rely upon private water supplies. Evidently, that is not being achieved to a suitable and sufficient standard at present. Deficiencies can reasonably be expected to have a negative impact on the health and wellbeing of that diverse community. Our findings indicate that appropriate policy actions are urgently needed to put that right, to ensure that all private water supplies are safe and resilient.”

5. Recommendations

People using private water supplies need a combination of interventions to help them to improve their water quality. There is scope for agencies to work more effectively with consumers, and together, to identify and provide what would work best for businesses, individuals and communities.

Recommendation 1 - Advice and support

Consideration should be given by the Scottish Government to establishing independent support for private water communities to provide:

- > Advice, information and support to those reliant on private supplies, including clearer signposting to, and awareness of the Scottish Government's online Information Hub²⁶;
- > Training to individuals and communities on risk management and improving their supply;
- > Signposting to accredited contractors;
- > Support to encourage private water communities to work more effectively with local authorities;
- > Signposting to available grant funding.

Further consideration is required to identify simple measures that improve education and knowledge amongst private water communities. This may include promoting the benefits of risk assessments and regular testing of unregulated water supplies.

Methods to raise awareness of the need to test private supplies could include collaborative, local campaigns using community contact points, such as a GP surgery or local nursery, to raise awareness of the risk of drinking untreated water.

Recommendation 2 – Availability of affordable solutions

The availability of affordable and appropriate water treatment systems that can treat different types of raw water is essential. This must be combined with support to ensure that owners spend their money on the right choice of water treatment.

Recommendation 3 – Grant funding

Further considerations should be given to how the Scottish Government's grant fund should be used against:

The full cost of treatment required;

- > To enable property owners to apply if a new issue is identified, even if a previous occupant has claimed in the past;
 - > To make it clearer to homeowners that grants of more than £800 may be payable in cases of hardship and clarify criteria for this;
 - > To pay grant amounts as quickly as possible, or directly to the contractor who carried out the work.
-

Recommendation 4 – Technical support from Scottish Water

Further consideration should be made by Scottish Water to extend its expertise to support private water communities where it is viable to do so. This could include providing essential maintenance and technical support on a commercial basis. Such a development would support stronger, more resilient communities.

Recommendation 5 – Facilitating connection to the mains

Connection to the mains, where it is possible to do so, should be made easy and affordable.

Scottish Water should ensure that comprehensive and simple advice on connecting to the mains is made widely available. This will ensure that property owners are aware of the benefits of connecting to the mains and how to do so.

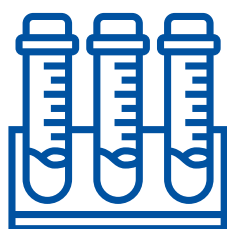
Recommendation 6 – Accreditation scheme

Improved controls should include an accreditation scheme for contractors working on private water supplies to ensure consumers are protected from unhelpful practices.

Recommendation 7 - Minimum support levels

Support from local authorities to private water supplies should achieve an agreed minimum standard.

- > Clear guidance on the role and responsibilities of local authorities should be made available to all private supply owners and users.
- > Local authorities should operate in a way that offers support first to rectify an issue; enforcement should only be used as a measure of last resort .
- > Proactive engagement by local authorities with private water communities will support a better understanding of their responsibilities and their options.



Recommendation 8 – Engagement and trust

Further consideration by local authorities should be given to identify suitable interventions to improve engagement and build trust with private water communities.

Thought should be given to enabling private water users to engage with one another. This will combat isolation and allow common issues to be explored, such as shared supplies and agreements, available grant funding, etc. It could also include guidance on formulating fair agreements regarding roles and (financial) responsibilities, and access to an agreed dispute resolution process.

Recommendation 9 – Reducing water scarcity

Further exploration of establishing group water schemes, where possible, may be appropriate. This is particularly important where one or several supplies within a locality are experiencing issues with water quality or quantity.

The Scottish Government should consider how water safety planning addressing water security can be done as part of a regular risk assessment.

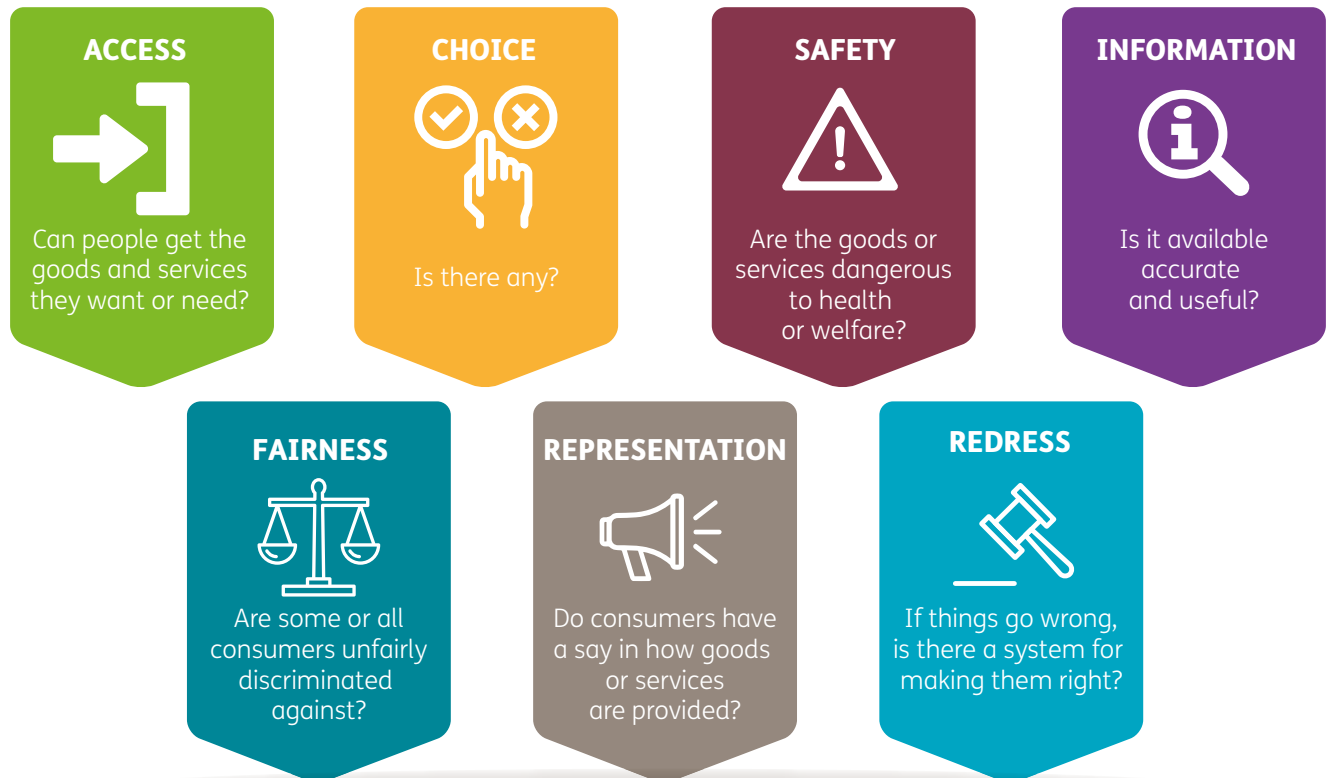
Recommendation 10 – Further research

Consideration should be given to conducting further research into:

- > Community awareness of risk assessments;
- > Risk assessment results, how easy they are to understand and how they are communicated to communities across local authority areas;
- > What actions are taken by communities in response to risk assessment results;
- > What more could be done to improve the effectiveness of risk assessments as a tool to support private water supply improvements.

Appendix

Consumer Principles





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