Ipsos MORI
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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

Contents

Executive Summary

This report presents findings from qualitative research carried out among users of private water supplies. The aim of the research was to provide the Scottish Government's Rural Provision Working Group with evidence of the support systems needed by those reliant on private water supplies, to inform the development of an effective support strategy.

The research comprised 20 in-depth interviews among non-domestic private water supply users (with Type A supplies[1]), and 17 in-depth interviews and four focus groups among 24 domestic users in total (with Type B supplies), with all fieldwork conducted between 11 September and 3 October 2017.

Consumer experiences of using a private water supply

Most participants, both domestic and non-domestic, were satisfied with their private water supply, in many cases, strongly so. They commonly and spontaneously referred to the high quality of their supply in terms of its "purity", "clarity" and taste, often comparing it favourably with mains water in these respects.

The minority of participants who expressed dissatisfaction with their private water supply reported much less positive experiences. This group tended to say they would like to be connected to the mains but appeared unclear as to whether or not this would be possible. The minority who had actively enquired about connecting to the mains reported mainly negative experiences of doing so.

Regardless of whether they were satisfied or dissatisfied overall with their private water supply, most participants had encountered water quality issues, ranging from discoloration to bacterial contamination. However, a common perspective, was that such issues were just a 'fact of life', and nothing to worry about. Accordingly, some of the domestic participants professed to using water from a private water supply without knowing what, if any, filtration or treatment had been applied to it. Similarly, several of the non-domestic participants described allowing neighbours to take 'raw' supply from their land. Domestic participants had rarely had their water supply tested, which in part reflected the absence of any mandatory testing of Type B supplies (which all of the domestic participants had).

Experience of problems with water reliability was also common among users, and ranged from issues arising from extreme weather conditions, to power cuts, and problems with water flow resulting from inadequate water stores or burst pipes. Still, it was uncommon for participants – even those who had experienced significant reliability issues – to express concerns about the long-term sustainability of their private water supply.

Participants tended to have high levels of technical knowledge when it came to maintaining their water supply and so had generally encountered few difficulties in this regard. However, participants who were newer to their communities, as well as some of those who were elderly, sometimes reported encountering more difficulties. The cost of ongoing maintenance

[1] Type A supplies are those serving a business or public building, or 50 or more people, or supplying $10m^3$ of water or more per day, while Type B supplies are not business or public buildings, and serve fewer than 50 people and supply less than $10m^3$ of water a day. On 27 October 2017, new regulations for private water supplies were introduced and Type A and Type B classifications will no longer be used. However, for the purposes of this report, Type A and Type B will be referenced to reflect research completed before this change.

was also an issue, particularly for some non-domestic users who were required to make upgrades to their supply in order to supply their business and/or meet water testing regulations.

Support for private water supply users

Collectively, participants had drawn on only a few sources of support or advice in attempting to resolve any problems they had experienced with their private water supply; most commonly local authorities and private contractors.

All non-domestic participants had had direct contact with their local authority regarding their private water supply, by virtue of the fact they were required to have it tested at least annually. However, they demonstrated varying levels of awareness and experience of other forms of support and advice their councils offered. Among domestic users, awareness and use of local authority support or advice was more limited still. Again, water quality testing was the main or sole service this group were aware their council provided – though some were unaware even of this.

Among those participants who felt able to comment on local authority provided support or advice, views tended to be negative. This was particularly the case among non-domestic users with much of their negativity directed towards the perceived stringency of water quality regulations and shortcomings in the testing process. Among domestic users, negativity towards local authority advice and support mainly took the form of resistance to outside interference.

Views and experiences of private contractors were similarly mixed. On the one hand, some participants regarded their contractor as a valuable source of support. Others, however, highlighted the high costs of contractor services – particularly for large scale jobs involving the replacement of parts or systems. For some participants on a lower income, the costs were prohibitive meaning they had to try to carry out repairs themselves.

There was some spontaneous mention of financial support available to private water supply users, with a few users having applied for the £800 Private Water Supply Grant offered by local authorities. More generally, however, knowledge of and use of the Grant was limited.

Overall, participants felt that improved support should be available to private water supply users and spontaneously identified various types of support and advice that they would find useful. These mirrored to an extent the CFU's overarching consumer principles, namely:

- the availability of **information** - additional technical guidance and information to help user maintain their supply; and more information on the rights and responsibilities of private water supply owners/users
- consumer **safety** - more guidance on how to maintain a safe private water supply, and what to do if users have any concerns about risks to their health
- the **accessibility** and **choice** of services – including: improved financial support, to help users connect to the mains or an increased grant to help cover the general maintenance and improvement of supplies; a publicly available database of approved contractors and suppliers in Scotland; and improved support networks within communities.

There was a consensus among participants that all the types of support for private water supply users outlined above should be available from one source. There was agreement that this should be a not-for-profit organisation, able to provide independent, impartial advice. Some suggested their local authority or the Scottish Government, while others favoured the establishment of a separate and dedicated, non-regulatory body.

While participants commonly said that any support and advice service could be provided online, they felt it should be available through other channels too, such as by telephone, email, post or face to face, for those users with unreliable or no internet connections and/or who are less confident in using the internet.

Views on possible support models

Participants were asked to consider and comment on four specific models of support for private water supply users that could be implemented in Scotland: a national organisation for private water supply users; a group improvement scheme; a training scheme; and an online information hub.

The online information hub was the most popular of the models. The prevailing view was that such a hub would serve as a useful reference point for private water supply users, providing in one place all the information they might need. There was particularly enthusiastic support for the idea of the hub containing a list of approved contractors.

The ideas of a national organisation and local authority-run training scheme received more mixed levels of support. While there was support that the national organisation would provide the 'one-stop shop' model of support favoured by participants, there were concerns it would represent an additional layer of bureaucracy and thus would not provide value for money. The training schemes were thought to offer a useful way of spreading knowledge and expertise, especially for new users, but some felt there would be low take-up of training in their community, or that it might ultimately lead to increased local authority interference in private water supplies. The group improvement scheme was the least popular model – no participants identified this as their preferred option, mainly on the basis that they tended to think such a scheme would not be logistically possible in their area.

Conclusions and Recommendations

The research findings confirm the need for improved support and advice for private water supply users. In particular, it points to a need for:

- improved financial assistance
- information and support for users on how to connect to the mains
- community sharing schemes (e.g. households sharing a private water supply or the costs of connecting to the mains)
- information and advice on health and safety
- clarifying the private water supply registration and testing process.

The research also points to the possible means by which this support and advice might be delivered: there was a clear preference for a dedicated 'one-stop shop' delivered either by local authorities, the Scottish Government or, ideally, an independent not-for-profit organisation. While there was a strong appetite for online information it is crucial that this is supplemented with other forms of support, to ensure it is accessible to all.

At the same time, participants felt that, in the first instance, all private water supply users should be contacted directly and made aware of the range of support available to them (including any newly established resource), rather than having to find this information for themselves at a time of need.

1. Introduction and Methodology

Background

The Consumer Futures Unit (CFU), part of Citizens Advice Scotland, uses research and evidence to put consumers at the heart of policy and regulation in the energy, post and water sectors in Scotland. It works with government, regulators and business to put consumers first, designing policy and practice around their needs and aspirations.

As a member of the Scottish Government's Rural Provision Working Group[2], the CFU is committed to improving, among other things, outcomes for users of private water supplies, including improving private water supply quality compliance and developing information about how to maintain and improve supplies.

In 2016, there were 22,118 registered private water supplies in Scotland, supplying drinking water to approximately 193,000 people (3.6% of Scotland's population), not including the large number of people who use premises with private water supplies in the course of leisure or tourism activities each year[3]. Private water supplies are not provided or maintained by Scottish Water and, as such, are not subject to the same levels of maintenance and quality assurance. Instead, the owner or user(s) of the supply is responsible for its maintenance.

At present a Private Water Supply Grant of up to £800 per property is available from Local Authorities to help users (both domestic and non-domestic) improve their supplies. In order to be eligible for the Grant, the supply must be registered with its local authority and undergo a risk assessment prior to approval. There is a limit of one grant per property, however if more than one property is supplied from a single private water supply, each of the properties can apply for a separate grant.

At the time this research was conducted, private water supplies in Scotland were categorised as either Type A (serving a business or public building, or 50 or more people, or supplying $10m^3$ of water or more per day), or Type B (not a business or public building, serving fewer than 50 people and supplying less than $10m^3$ of water a day). In accordance with The Private Water Supplies (Scotland) Regulations 2006, all Type A supplies were subject to annual checks by local authorities in order to ensure minimum water quality standards. Type B were not subject to any such mandatory checks; rather it was the responsibility of a nominated 'relevant person' to ensure the supply was wholesome, maintained, and that users were made aware of any water quality issues. All private water supplies, regardless of their type, should be registered with their local authority.

On 27 October 2017, new regulations for private water supplies were introduced and at present, it is unclear what terminology will be used to denote Type A and Type B classifications in the future. It should be noted that despite the change in regulations, the issues faced by users/owners in terms of support will remain unchanged and indeed may be

[2] Comprising: the Drinking Water Quality Regulator (DWQR); Scottish Government; Scottish Environmental Protection Agency; the Water Industry Commission for Scotland; Scottish Water; and Citizens Advice Scotland.

[3] DWQR. 2016. *Drinking Water Quality in Scotland 2016: Private Water Supplies*. http://dwqr.scot/media/34963/dwqr-annual-report-2016-private-water-supplies.pdf

even more pressing, as privately rented accommodation is now considered a business and subject to mandatory annual testing[4].

In 2016, testing carried out on Type A and Type B supplies found that many private water supplies were of poor quality. Indeed, the Drinking Water Quality Regulator for Scotland (DWQR) reported that E. coli was detected in 11% of private water supply samples in Scotland. Previous research and evaluation work suggest that this may be a reflection of both varying knowledge among private water supply users about the health risks associated with private water supplies and how to treat, maintain and test supplies[5], as well as inconsistencies in the types and levels of support available to users in different local authority areas[6]. In other words, the existing evidence base points to a need for improved support and advice services for private water supply users, owners and communities to ensure they have access to safe, reliable drinking water. The CFU, in partnership with the Drinking Water Quality Regulator for Scotland (DWQR), commissioned Ipsos MORI to carry out research with private water supply users to inform the development of such services.

Research Objectives

The aim of the research was to provide the Scottish Government's Rural Provision Working Group with evidence on the support systems needed by people and communities reliant on private water supplies, to inform the development of an effective support strategy for the sustainable improvement of private water supplies in Scotland.

The key objectives were to:

- better understand the support private water supply users require to ensure they have safe drinking water
- better understand which support mechanisms private water supply users and communities need to achieve a sustainable supply of safe drinking water
- provide evidence that will inform the development of further support to improve drinking water quality within private water communities.

Methodology

The research was conducted with 61 participants, using a qualitative approach, comprising:

- seventeen in-depth interviews and four focus groups with domestic private water supply users
- twenty in-depth interviews with non-domestic private water supply users.

The sample frame comprised a database of all properties in Scotland using registered private water supplies, provided by the DWQR. Participants were purposively sampled from across five different local authority areas – Aberdeenshire, Argyll

[4] http://www.legislation.gov.uk/ssi/2017/282/contents/made

[5] CREW. 2017. *Engaging communities around Private Water Supplies*. http://www.crew.ac.uk/publication/engaging-communities-private-water-supplies

[6] ICF International. 2016. *An evaluation of private water supply regulation in Scotland*. http://dwqr.scot/media/29747/dwqr-an-evaluation-of-private-water-supply-regulation-in-scotland-final-report-25-jan-2016.pdf

and Bute, Highland, Orkney and Stirling – chosen because they contained a relatively high penetration of private water supply users, covering a wide range of types of private supply.

All those sampled were sent an introductory letter that provided background information on the research, invited them to participate and explained how to opt in or out by email, telephone or post[7]. When users opted in to the research, a member of the research team contacted them by telephone to check their eligibility, by screening against the sample profile discussed below, answer any questions they may have; and arrange a convenient time and place for the interview.

Research with domestic private water supply users

The in-depth interviews were conducted with domestic users from across the five local authorities (the interviews were undertaken either face to face or by phone depending on the remoteness of the location). The focus groups were carried out in Callander (Stirling), Huntly (Aberdeenshire), Inverness (Highland) and Oban (Argyll and Bute), with a total of 24 participants attending.

Overall the domestic sample included a broad mix of users in terms of their level of responsibility for, and satisfaction with, their private water supply; the specific type of private water supply they had; their age; their postcode classification in relation to the Scottish Index of Multiple Deprivation (SIMD) and urban rural classification[8]; and their confidence in using the internet. The latter variable was considered important given previous CFU research[9] suggesting improved support for private water supply users could be made available online, and other research[10] showing that people living in remote, rural locations often have unreliable or no access to the internet, and therefore may have difficulty accessing online support. All domestic participants had Type B supplies.

The final achieved sample of domestic users is set out in Table 1.1 below.

[7] 740 domestic users and 210 non-domestic users were sampled. 398 domestic users were invited to take part in an in-depth interview and 342 were invited to a take part in a focus group.

[8] According to the Scottish Government's 6-fold Urban Rural Classification.

[9] Citizens Advice Scotland. 2016. Improving information and signposting for users and managers of private water supplies and private sewerage facilities. (unpublished).

[10] Ipsos MORI. 2016. Poverty Premium in Scotland: For Citizens Advice Scotland. Available at: https://www.cas.org.uk/files/poverty_premium_in_scotland_final_11042016.pdf

Table 1.1: Sample of domestic users

Quota	Number of participants
Local authority	
Aberdeenshire	13
Argyll and Bute	6
Highland	13
Orkney	2
Stirling	7
Age	
18-34	2
35-54	14
55+	25
Water source type	
Groundwater	28
Surface water	13
Level of deprivation	
Most deprived (SIMD 1-2)	2
Average (SIMD 3)	19
Least deprived (SIMD 4-5)	20
Remoteness Classification	
Accessible Rural	13
Remote Rural	28
Level of responsibility	
User	14
Owner of supply/Relevant person	25
Estate (domestic user)	2
Satisfaction with supply	
Satisfied	25
Dissatisfied or neither/nor	16
Confidence using the internet[11]	
Confident	32
Not confident	9

[11] For example, to search for information online and/or send or receive emails.

Research with non-domestic private water supply users

Twenty in-depth interviews were conducted by phone with non-domestic users, all of whom had Type A supplies. To ensure a broad mix of business types and circumstances, participants were purposively recruited by Local Authority, business type, and satisfaction with their private water supply. Again, efforts were also made to recruit participants with lower levels of confidence in using the internet. The final achieved sample of non-domestic users is set out in Table 1.2.

Table 1.2: Sample of non-domestic users

Quota	Number of participants
Local authority	
Aberdeenshire	5
Argyll and Bute	6
Highland	5
Orkney	2
Stirling	2
Business type	
Hotel	1
Holiday let	10
Food producer	3
Farm	2
Estate (non-domestic)	2
Other	2
Satisfaction with supply	
Satisfied	11
Dissatisfied or neither/nor	9
Confidence using the internet	
Confident	18
Not confident	2

Discussion guides, and interviewing/facilitation

All interviews and focus groups were structured around discussion guides, designed by Ipsos MORI in consultation with the CFU. Participants were asked about their satisfaction with, and experience of, using a private water supply; their views on the support systems available for private water supply users; and any additional support or advice they felt they needed. Non-domestic users were asked, in addition, about using a private water supply in the context of running a business – for example, the likely impact, if any, a private water supply test failure might have upon their business.

The fieldwork was carried out between 11 September and 3 October 2017 by the core members of the Ipsos MORI research team. Domestic users who took part in an in-depth interview were given £25, and those who took part in a focus group £35, as a 'thank you' for their time and to cover any expenses incurred.

All interviews and focus groups were audio-recorded (with respondents' permission). All of the focus group recordings and a selection of the interview recordings were transcribed for analysis purposes. The transcripts and interviewer notes

were then systematically analysed[12] to identify the substantive themes that emerged in relation to each question in the discussion guide, along with key points and illustrative verbatim comments. This ensured that the analysis of the data was rigorous, balanced and accurate, and that key messages or concepts were brought out. It was also flexible enough to allow links and connections across different themes or sub-themes to be made, and for moments of interpretive insight and inspiration to be recorded.

Interpreting qualitative findings

Unlike survey research, qualitative social research does not aim to produce a quantifiable or generalisable summary of population attitudes, but to identify and explore the different issues and themes relating to the subject being researched. The assumption is that issues and themes affecting participants are a reflection of issues and themes in the wider population concerned. Although the extent to which they apply to the wider population, or specific sub-groups, cannot be quantified, the value of qualitative research is in identifying the range of different issues involved and the way in which these impact on people.

Structure of the report

The next chapter of the report describes participants' overall satisfaction, and any issues they had encountered, with their private water supply. Chapter 3 describes their awareness and perceptions of the types of support and advice currently available to private water supply users, their own support needs and their views on four different support models in place elsewhere in Europe. The final chapter outlines a number of recommendations for improving the support available to private water supply users and communities, based on the research findings.

Acknowledgements

Ipsos MORI would like to thank the 61 private water supply users who gave up their time to take part in the interviews and focus groups. Thanks are also due to David Moyes and Jana Eyssel at the CFU, and Sue Petch, David Grzybowski and David Brown at DWQR, for their input and advice throughout the project.

[12] The interviewer notes, supported by audio recordings and transcripts, were summarised under key thematic headings, structured around the research questions. The resultant 'thematic matrix' was then systematically interrogated to identify the full range of views and experiences on each issue/question; differences in views and experiences (e.g. between domestic and non-domestic users, supply type, local authority etc.); and the relationships between particular views and experiences.

2. Consumer experiences of using a private water supply

Overview

Most participants, both domestic and non-domestic, were satisfied with their private water supply; in many cases, strongly so commonly and spontaneously referred to the high quality of their supply in terms of its "purity", "clarity" and/or taste, sometimes comparing it favourably to mains water in these respects. They also commonly stated that their supply was very reliable or, more generally, that they had never experienced any problems with it.

> *"It's extraordinarily pure and beautiful, it's a lot better than [mains] supply."*
>
> (Domestic user, Type B)

> *"The taste is unbelievable, it is really amazing… I mean, I bottle it and take it with me when I'm going on journeys so I don't have to buy water, I wouldn't want to go onto mains."*
>
> (Non-domestic user, Type A)

> *"We have a good, constant flow of water. There is too much water I would say, so there is never a chance of it drying up."*
>
> (Domestic user, Type B)

A minority of participants reported much less positive experiences, however, both in terms of the quality and reliability of their supply, and the general level of effort it took to maintain it. Additionally, non-domestic users (including some of those who initially reported being satisfied overall with their private water supply), commonly complained about what they perceived as the high cost of maintaining their supply to the requisite standards – for example, the cost of treatment systems and annual testing. (All of the aforementioned issues are discussed more fully below in the section 'Issues encountered in using a private water supply'.)

Participants who had experienced the greatest difficulties with their supply tended to say they would like to be connected to the mains. Some of them believed this would ultimately result in their paying more for their water, however, while others stated that connection would not be possible – though in several such cases it became clear that the participants did not know for sure this was the case but rather were simply assuming it was based on the fact their property had always had a private water supply, or because it was a long way from the nearest mains pipe, or there were physical barriers in the way in the form of rivers or mountains.

> *"Anything's possible with a big cheque I guess, but it's not something that we've explored…We have the river between us and the nearest town and I would have thought there's possibly issues over crossing the river to bring mains water onto that…I think that might be an obstacle."*
>
> (Non-domestic user, Type A)

"I mean, the houses nearer to the mains than me haven't got it."

(Non-domestic user, Type A)

The minority of participants who had actively enquired about connecting to the mains reported mainly negative experiences of doing so. In particular, they described how Scottish Water and/or their local council had been difficult to get hold of to discuss the matter with and/or had appeared unwilling to help them, whether in practical or financial terms.

"Some of our supplies in the village could go on to mains and that would be far more cost-effective for them and us, but trying to get anyone at Scottish Water is an absolute nightmare."

(Domestic user, Type B)

"I tried contacting the Council to see if there was any chance I could get mains water because I had small kids and we were without water, but there was no help from them because of the cost. They said I could do it myself and we needed a pumping station, but it was just a ridiculous amount we would be charged."

(Domestic user, Type B)

Issues encountered in using a private water supply

Participants were asked to describe any specific issues they had encountered with their private water supply in terms of:

- water quality
- water quantity/reliability
- maintenance
- relationships with other users.

Water Quality

Most participants had experienced at least some issues with the quality of their water, including many of those who described being satisfied overall with their supply. There was particularly frequent mention of what might be considered more minor quality issues, such as discolouration due to heavy rainfall, and contamination from leaves and debris, though mention of more serious issues, such as metal or bacterial contamination, was not uncommon.

"The colour is sometimes a bit off-putting if you've had a bath and it's the colour of coffee you come out dirtier than you went in."

(Domestic user, Type B)

"The water was contaminated with rubbish, we used to get grass roots coming into the supply pipe, and we had manganese particles in the water."

(Non-domestic user, Type A)

"It was undrinkable, it stunk of iron, it was full of iron; tasted metallic."

(Domestic user, Type B)

"The only issue with it was the level of E. coli and that is a problem with the farmer not keeping the cows away from the tank."

(Domestic user, Type B)

Domestic users occasionally expressed concern about the potential impact of such water quality issues on their and/ or their families' health, and described how they would boil their water before drinking it or use an alternative source for drinking water. A minority said that their private water supply had exacerbated an existing health condition – for example, eczema or kidney stones – or contributed to a new condition.

"With our water supply we have had upset tummies and headaches, the feeling of a hangover with no alcohol, and it's just bizarre. Then speaking to my neighbour yesterday he has been feeling the same."

(Domestic user, Type B)

"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, Type B)

A more common perspective, however, particularly among longer-term users of private water supplies, was that issues like contamination were just a 'fact of life', and nothing to worry about. Indeed, several of those advancing this perspective believed they had built up a natural tolerance to impurities in their supply or just were 'hardier' than people living in more urban areas.

"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, Type A)

"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, Type B)

"I'm totally unbothered even if it tastes of cow shit, as it has done in the past."

(Domestic user, Type B)

"A lot of the folk up here they go on about all this bacteria that's in the water, but people have been drinking it up here all their lives, so the chances are they've built up [an immunity to it]."

(Domestic user, Type B)

Accordingly, some of the domestic participants professed to taking water from a private water supply without knowing what, if any, filtration or treatment had been applied to it, or else stated an explicit preference for unfiltered water. Others volunteered that they did not see a need to remove leaves, debris or, less commonly, animal carcasses from in and/or around the source. Several of the non-domestic participants described allowing neighbours to take 'raw' supply from their land, albeit saying they stressed to these neighbours that they could not guarantee the water was wholesome.

"It is recommended cleaning the vegetation from it. I don't do it very often because it hides it from passers-by."

(Domestic user, Type B)

"There are dead animals all over the hills, you know; everybody has been drinking the water in the burns and the mountains for years. I don't see any problems with that."

(Non-domestic user, Type A)

"We do allow others, private parties, third parties, to draw water from [our land]…it is literally a pipe into a burn; they take the water and it's up to them to do what they want with it. We don't guarantee the quality or the quantity, it's just right for them to take water from the estate lands."

(Non-domestic user, Type A)

The domestic participants had rarely had their water supply tested – indeed, most said it had last been tested when they first moved into their homes, which in some cases had been over thirty years previously. This appeared to reflect not only their often unconcerned attitudes towards water quality issues, illustrated above, but also the absence of any mandatory testing of Type B supplies (which all of the domestic participants had) – a fact that may also explain evident low awareness of the support and advice offered by local authorities among the domestic participants.

"[I] just didn't want to [have my supply tested]. [The council] were like, 'you don't need it; it's a private house, you don't need to have it tested."

(Domestic user, Type B)

The testing process was often perceived quite negatively by domestic participants, on several grounds. First, they believed that tests were susceptible to error because of continual fluctuation in the levels of materials and chemicals in private water supplies; in other words, that there was no 'steady state' in supplies that the tests might measure.

"The thing about water testing…. it's only a snapshot, so you can have your water tested today and it's lovely, and it pisses with rain all night, and there's been sheep in the field above, then your E. coli numbers are going to be up, and it's just as simple as that."

(Domestic user, Type B)

"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, Type B)

Second, there was a perception that testing was expensive (sums of between £100 and £200 were cited) and dissatisfaction that the cost – as well as the costs of any upgrades subsequently required – had to be paid for by users themselves. This was often discussed with reference to what participants regarded as increasingly stringent regulations around water quality; something they feared might result in their being 'forced' to make improvements they would struggle to afford.

"I know a lot of people might find it difficult if they suddenly get a bill for £150 for testing the water they would be, 'oh dear'. They don't want that."

(Domestic user, Type B)

"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, Type B)

"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, Type B)

Thirdly, there was a lack of trust among domestic users in the competence of the local authority officials/contractors who carried out the tests – which was often based on past personal or proxy experiences – and, allied to this, concern that errors in administering the tests could lead to failed results, regardless of whether or not harmful compounds were found in the water. More generally, the domestic participants were sometimes wary of engaging with their local authority in relation to their private water supply on account that this might result in unwanted interference with their supply or in its being condemned. This could explain why some of the domestic participants wrongly assumed that their supply was not registered with their local authority[13].

"The lady that came up to do the tests forgot to take certain tubes, she was apparently like the director of the company, it all seemed a bit embarrassing to be honest."

(Domestic user, Type B)

[13] The sample frame comprised a database of all properties in Scotland using registered private water supplies, provided by the DWQR. In cases where participants were unaware if their supply was registered, it is possible their supply had been registered by a previous owner, or identified and registered by their local authority using Council Tax or Ordnance Survey data.

"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, Type B)

Even the minority of domestic participants who had had their water supply tested recently alluded to being somewhat cynical about the process – which had resulted in some of them choosing not to act on the results, even when minor quantities of E. coli had been detected.

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

(Domestic user, Type B)

In sum, there was a clear sense that many of the domestic users were content to rely on their own judgement in assessing their water quality, based on 'observable' indicators such as colour, taste and smell, rather than anything more 'scientific'.

For their part, non-domestic users were more acutely conscious of water quality issues, given their Type A supplies were subject to regular testing. However, there was still a perception among this group that test results can be somewhat arbitrary, and that a small quantity of, for example, metals or rainwater, could result in a failed test without necessarily causing any harm to anyone drinking the water.

"I'm of a generation where people didn't go round fussing about the odd bacteria here and there and I haven't died yet."

(Non-domestic user, Type A)

"Before the water was condemned, people had been drinking that water and it was all fine, and then all of a sudden it had to be shut down, and we had to get bottled water."

(Non-domestic user, Type A)

Most of the non-domestic participants had experienced a failed water quality test at some point in the past. While some said their business had been little affected by this, as relatively minor issues had been identified, others reported considerable impacts, including significant financial impacts. These ranged 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. Consistent with the views of domestic users, non-domestic participants frequently expressed dissatisfaction with the resources and technical expertise of the local authorities carrying out the tests, which they felt left their businesses vulnerable.

"If it fails big time, the time is going to come when I've got to replace all the main filters. We've got to bear the cost against the holiday cottage."

(Non-domestic user, Type A)

"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, Type A)

"There have been cutbacks at the Council and there is just one person that does these tests, and [they] just do one test a day. [They] were supposed to wipe the tap clean before taking the sample, and [they] forgot about that."

(Non-domestic user, Type A)

At the same time, the non-domestic users also commonly and spontaneously expressed a view that the increasingly strict regulations around private water supplies were becoming difficult to meet, particularly given the lack of financial support available to users. They felt that this presented a further risk to their private water supply and thus to the functioning of their respective businesses.

"My greatest concern is the increasingly onerous standards, in terms of the specification becoming tighter and tighter, and there will be a tipping point at which that will cause significant problems."

(Non-domestic user, Type A)

"The testing is a bit too rigid. You're never going to get perfect water from a spring."

(Domestic user, Type B)

Reliability of supply

Experience of problems relating to the reliability of private water supplies was also very common, though notably more so among domestic than non-domestic users. This difference in large part reflected the fact that non-domestic users needed a steady supply of water for the effective functioning of their businesses and thus had often placed greater urgency than their domestic counterparts on taking steps to address supply issues for the long term. Still, some non-domestic users did report having experienced reliability problems in the past.

"We had issues if we had a very dry summer then we would sometimes run out of water. But we have also tapped into a secondary spring supply which adds a further top up."

(Non-domestic user, Type A)

Across the interviews and focus groups, three specific issues relating to reliability were mentioned repeatedly:

1. issues arising from extreme weather conditions in the form of hot summers, which resulted in supplies drying up; and, conversely, very cold spells when supplies often froze;
2. power cuts (which are more common in rural than urban areas) affecting both the supply of water through electric pumps, and also water treatment/filtration systems;
3. problems with water flow resulting from inadequate water stores or burst pipes.

Users experienced these issues with varying frequency, ranging from seasonally (in the case of problems relating to severe weather) to much more regularly. Indeed, a small number said they had to check their supply on a daily basis, to ensure nothing was amiss.

> *"The big problem we have is if we get a power cut the pump doesn't work, so you've got a limited supply of water."*
>
> (Domestic user, Type B)

> *"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, Type B)

> *"I need to check it every day if it's been raining heavy or extreme rain, just because the pipes get choked."*
>
> (Domestic user, Type B)

Participants were clearly frustrated by the reliability problems they encountered, particularly given what they perceived to be the plentiful supply of water in Scotland. They often described having to ration their water use or to avoid taking showers or using other high pressure appliances.

> *"We wanted to add a shower, and the council turned down the shower because they said it would alter the water table."*
>
> (Domestic user, Type B)

Still, it was uncommon for participants – even those who had experienced significant reliability issues – to express concerns about the long-term sustainability of their private water supply. They tended to explain this by saying they had personally used a private water supply for most of their lives and had never encountered any long-term disruptions to their supply. The minority who *did* have concerns in this regard mentioned challenges presented by fracking and new building work, which they felt could potentially affect the water table. Feeding into these concerns was a perception that there was a lack of local consultation about planned developments which could potentially leave households unexpectedly facing issues.

> *"[Any new building or infrastructure in the area] will affect the supply, so there needs to be some planning around this."*
>
> (Non-domestic user, Type A)

> *"I find it very worrying the prospect of any kind of fracking in an area like this because it is going to alter the water table for everybody and we can all find ourselves out of water."*
>
> (Domestic, Type B)

"The water supply has come close to drying up, that would have a material impact on us, if livestock are not getting water….they would have to be moved, and the cost of putting in an alternative supply for the short or medium – it could be a mild irritation or it could be a serious concern for us."

(Non-domestic user, Type A)

Relationships with other users

It was relatively uncommon for participants to have experienced problems related to sharing a private water supply with other users. Those who had done so tended to be people who were newer to their communities and, often related to this, those who had little in the way of formalised private water supply sharing arrangements in place with their fellow users. People who had lived in their community for a while often just had historic informal arrangements with any fellow users around the general maintenance and upkeep of the supply, which could lead to disagreements or disputes over the shared costs of repairs and upkeep.

"We haven't had any maintenance done in thirty years because we can't get the neighbours to agree."

(Domestic user, Type B)

"I don't know anything about [our neighbours] rights and responsibilities so don't know what to do, and I don't want to annoy the neighbour."

(Domestic user, Type B)

A specific issue experienced in terms of sharing a supply was overuse in one setting having a ripple effect for others using that source. Indeed, some domestic participants recalled having run out of water under such circumstances and having had to travel some distance to find an alternative supply.

"The farmers are the big problem, they tap into it for fields, troughs, or they plough it up and actually the field troughs are the biggest problem."

(Domestic user, Type B)

"People coming here from England, they have no idea how private water supplies work, we had neighbours with horses, drinking from the supply, they used it all up, and we didn't have any water for weeks."

(Domestic user, Type B)

Another specific issue of this type concerned difficulties getting agreement among users to have work done to the supply, and to split the costs evenly. In particular, non-domestic participants reported instances whereby domestic users of their supply had been reluctant to pay a share of maintenance and/or repairs carried out, or explicitly refused to do so.

"There are forty or fifty houses who take water from our estate. We would do all the work, we are the arranger and banker of the work, and then we share out all the costs, and there are always a few households who don't pay up the bill."

(Non-domestic user, Type A)

"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, Type B)

Some domestic users appeared uncertain as to the formal ownership of, and rights and responsibilities in respect of, the land on which their shared water source was situated. Some users' sources were situated on neighbouring farm land, while others commented that their source was situated on land owned by the Forestry Commission and that any complex work required to the water source would involve an arrangement being set up between them and the organisation. They felt such an arrangement could be potentially bureaucratic and costly to administer.

General maintenance and upkeep

Participants tended to have high levels of technical knowledge when it came to maintaining their water supply and so had generally encountered few difficulties in this regard. Added to this, it was clear that for many of them being self-sufficient and resourceful was virtually a way of life and something on which they prided themselves – such that when something went wrong with their private water supply, it was natural for them just to '*get on with it'* and find a solution through trial and error.

"I think it goes back to enjoying having a private water supply in comparison to a town supply, and you take pride in it and you enjoy maintaining it."

(Domestic user, Type B)

"When you live in a rural area then you have practical knowledge to deal with aspects of maintenance yourself - it's the life that you have bought into - you want to be left alone so you deal with problems."

(Domestic user, Type B)

Participants' knowledge of how to maintain their private water supply had been gleaned from various sources, including their employment backgrounds (such as in engineering or construction); relatives, friends or people in their community; private contractors; and the internet (though no specific websites were mentioned). Others were entirely self-taught, having learned through experience.

"I'm a mechanical engineer, and in my case you just know that there is a way of dealing with [any problems] … I have installed systems around here for three neighbours and I have also helped another neighbour."

(Domestic user, Type B)

"I normally do [repairs] myself and I have the knowledge to deal with it… I just learned from the guy that [installed our private water supply]. We just watched what he did and gained the knowledge from there."

(Non-domestic, Type A)

Participants, who were newer to their communities, as well as some of those who were elderly, sometimes reported encountering more difficulties with the maintenance of their private water supply or worrying that they might do so in the future, particularly when it came to more onerous aspects of maintenance. These participants said they would be reliant on private contractors or family members/people in their community to help them deal with any future problems with their supplies.

"If there is an issue arising we go to panic."

(Domestic user, Type B)

"The only thing that concerns me is the day that we're too old to do it all, because I don't intend to be moving anywhere, but I would need to find somebody who knew what they were doing to come and do it for us, and that's the biggest thing that I've got, is if we're ill or old, then I don't know who would do the maintenance on it."

(Non-domestic user, Type A)

In terms of the ongoing work required to maintain specific aspects of the supply, while most participants reported few concerns with regards to replacing filters and maintaining filtration systems, the maintenance and repair of water pumps was highlighted as a potentially expensive aspect of running a private water supply. These often had a limited lifespan and were expensive to replace once they broke down.

"Sometimes a pump will last for three or four years, sometimes it will last for fifteen. It's just the luck of the draw."

(Non-domestic user, Type A)

"Pumps are probably last for ten years. The first one went a year ago, so a new pump was two grand."

(Domestic user, Type B)

As mentioned previously, the costs related to ongoing maintenance was a particular issue for some non-domestic users, who were required to make upgrades to their supply in order to supply their business and/or meet water testing regulations. These could range from one or two hundred pounds to replace filters and UV bulbs, to thousands of pounds to make more significant upgrades to systems or pumps.

"Including the service contract and replacement of equipment it costs us around one thousand pounds are year."

(Non-domestic user, Type A)

"{Maintenance] is one of the background stresses of having an accommodation business. We had to replace one of the supplies with a borehole… which cost around £20,000."

(Non-domestic user, Type A)

Domestic users had generally incurred comparatively lower maintenance and upkeep costs, as there was less urgency to carry out large scale maintenance and so they tended to balance these against the fact they were not paying water rates. Nevertheless, there was an appreciation that if larger upgrades were required, these would involve a significant financial outlay.

"It's not a huge cost, but it's another additional cost. Well, when you speak to people and they change their [filters] every six months and I'm changing mine every three weeks or one month."

(Domestic user, Type B)

"It is once every 20 years when something goes drastically wrong then that's £25,000 almost in water charges which we haven't paid. So, we ought to get on with it."

(Domestic user, Type B)

3. Support for private water supply users

Awareness and perceptions of existing support systems for private water supply users

Collectively, participants had drawn on only a few sources of support or advice in attempting to resolve any problems they had experienced with their private water supply; most commonly local authorities and private contractors. This could reflect their generally high levels of competence and self-sufficiency when it came to maintaining their private water supply and/or their reliance on informal support, but could also be symptomatic of their low awareness of the range of support and advice available.

Self-sufficiency and informal support

As touched upon in the previous chapter, there was a high degree of self-sufficiency among participants in terms of maintaining their private water supply. Many felt more than able to carry out day to day repairs and general upkeep tasks, such as changing their filters or chlorinating their storage tanks. Some were more competent still, having installed their entire system themselves.

> *"We usually have to clean out the tanks now and again. And we put in a sand filter recently because of the problems we've been having which has helped a bit."*
>
> (Domestic user, Type B)

> *"When we moved in, one of the first jobs I did was to excavate an alternate spring source by hand… When I realised it was a viable source I went through a lot of effort to renovate the spring header tank and re-divert it into the main catchment tank. I did all the work myself basically."*
>
> (Domestic user, Type B)

> *"We upgraded the original supply. We put in a concrete, brick wall support around the original source and increased the height of the water inside the spring, [and] put in an overflow pipe… A contractor recommended how to improve it and upgrade it, but we did all the work ourselves."*
>
> (Non-domestic user, Type A)

In general, participants were happy doing this work. They commonly noted that people living in rural communities were used to doing things for themselves, and that if you bought a property with a private water supply you had to be willing to maintain it. Being self-sufficient was also a matter of financial expediency for some, however, particularly those on lower incomes, since it meant they did not have to pay private contractors to maintain and repair their supply.

> *"We haven't got thousands of pounds to spend on water, so we're relatively up to speed with UV filters, changing filters, and cleaning the tank."*
>
> (Domestic user, Type B)

Those who were less self-sufficient, particularly some of the older participants, relied heavily on informal support from friends, relatives and their wider community. While such support appeared readily available to many of those we spoke

with, this was not universally the case, particularly for those living in very remote locations or who were new to their community.

> *"I wouldn't attempt to do anything with the [supply] now that I'm over 60. I usually get my son-in-law to do it."*
>
> (Domestic user, Type B)

> *"We're a rural community here, you know, and we don't have any close neighbours that are near hand. So, I mean, they're like miles away."*
>
> (Non-domestic user, Type A)

Local authority-provided support and advice

All non-domestic participants had had direct contact with their local authority regarding their private water supply by virtue of the fact they were required to have it tested at least annually. Despite this, they demonstrated varying levels of awareness and experience of other forms of support and advice their respective councils offered to private water supply users. Thus, while some knew about and/or had benefited from advice on the maintenance of their supply, information on the health and safety risks relating to private water supplies (generally through leaflets provided by health officers testing their supply) or financial support, others appeared 'in the dark' about such services.

> *"Other than coming to test us once a year no one from the council has ever kind of volunteered any support for our supply, there's nothing."*
>
> (Non-domestic user, Type A)

> *"When our test fails they say, 'Don't use the water' and give us a leaflet to tell you why and what you should do, but I'm not aware of any other [local authority-provided] support."*
>
> (Non-domestic user, Type A)

Awareness and use of local authority support or advice was more limited still among most domestic users. Again, water quality testing was the main or sole service this group were aware their council provided – though some were unaware even of this.

> *"What I found was they were very concerned about quality of water which I think is probably right, that is their remit, but they weren't really interested in providing information on any other aspects on my supply."*
>
> (Domestic user, Type B)

> *"I don't know how to get it tested and it's that kind of thing I want to find out more about."*
>
> (Domestic user, Type B)

Evident in some of the foregoing quotations is a clear expectation among both domestic and non-domestic users that information and advice on private water supplies was something they should be provided with directly, rather than having to proactively source it themselves.

Among those participants who felt able to comment on local authority provided support or advice, views tended to be negative. This was particularly the case among non-domestic users with much of their negativity directed towards the perceived stringency of water quality regulations and shortcomings in the testing process, as previously discussed.

Among domestic users, particularly with those unaware if their supply is registered, negativity towards local authority advice and support mainly took the form of resistance to outside interference. As noted earlier, they were concerned that local authority involvement could result in their losing control of responsibility for their supply and being forced to make expensive upgrades, or in having their supply condemned should it not meet what they perceived as unnecessarily strict quality standards.

A few participants – including both domestic and non-domestic users – did offer more positive views of local authority-provided support and advice, however. In particular, they noted that having their water quality tested was a quick, easy process, and gave them peace of mind in terms of the wholesomeness of their supply. Further, they praised the environmental health officers who carried out the testing, describing them as "knowledgeable" and "helpful", including in relation to matters such as health and safety, and financial support.

> *"We were given good guidance, directly from the environmental health officer about improving the quality of the pipework and treatment systems… She was very good, and very knowledgeable and supportive in terms of the water quality data and materials we needed."*
>
> (Domestic user, Type B)

> *"I've got to give it to the Council, they've been first class, and they've made sure we got as much financial support as we possibly could because of the cost of the installation."*
>
> (Domestic user, Type B)

Private contractors

Use of private contractors, including private water supply specialists, plumbers, and the suppliers of private water supply parts, varied depending on participants' technical expertise. Those with greater expertise used contractors only when "absolutely necessary" due to the expense involved, while those with less were more reliant on them.

Contractors had typically been employed to carry out repairs or upgrades to systems (such as to pumps or filtration systems), or to install entire systems – an expensive procedure, generally costing in excess of £10,000. Less commonly, there were participants who had servicing agreements with contractors, under which the contractor would visit on an annual, or biannual, basis to inspect the system, test the quality of the water, carry out minor repairs and advise if any upgrades or repairs were required.

> *"I get water sampled privately now. I have a maintenance contract. The major thing that I need help with is changing the activated carbon filter, so what they do for me is they come and they will change out the two median filters every two years."*

(Domestic user, Type B)

Generally, participants found out about contractors through word of mouth in their community. Some had tried contacting their local authority for such information, or had looked online, but typically with limited success. They commented, for example, that their local authority had been unable to provide information on reputable contractors in the area, or that, when looking for information online, it was difficult to identify contractors able to carry out specific kinds of work.

> *"I did quite a lot of research myself, asking around locally, and in the end there was one company [that was recommended]. So I ran it past the Council and they thought they'd heard of them but they didn't really seem to have any substantial knowledge about these things."*

(Non-domestic user, Type A)

> *"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, Type B)

Views and experiences of private contractors were mixed. On the one hand, some participants regarded their contractor as a valuable source of support, providing an expert service that enabled them to maintain a safe and reliable supply.

> *"[The contractor] installed the dam, he installed the piping, he installed the filter system, he put pumps in and everything. Any issues, he's been very good at resolving anything."*

(Non-domestic user, Type A)

The company Highwater received particular praise in these respects.

> *"Highwater have been very good… They're very professional. They're quite expensive but at the same time I trust them."*

(Non-domestic user, Type A)

Negative comments about private contractors tended to focus on the perceived high costs of their services – particularly for large scale jobs involving the replacement of parts or systems. Indeed, for some participants on a lower income, the costs were prohibitive meaning they had to try to carry out repairs themselves.

Contractor costs were often particularly high for people living in more remote areas, where few contractors were based, as they had to pay call-out fees on top of any repair or maintenance fees. Participants living in rural areas where there *were* locally based contractors sometimes reported a lack of reputable ones. They often cited personal or proxy experiences of contractors carrying out poor-quality work, which made them feel they had little choice but to rely on more expensive specialist companies from elsewhere.

"They charge an absolute fortune so I imagine that would put most people off. And then you're having to go to get people to come over from Inverness or from Glasgow or whatever and the costs soar because of the travel and the expense."

(Non-domestic user, Type A)

"It would have been nice if there was more choice, because [the contractor we used wasn't] the cheapest. There was some other guy in the area and I think the general opinion of him was a bit cowboy-ish, so I didn't get involved."

(Non-domestic user, Type A)

"The only contractor who I know of locally who really knows what he is doing would have charged a considerable amount of money to [make those repairs]."

(Domestic user, Type B)

In addition to this, there was mention that the suppliers of some parts required for maintenance work were often based outside of Scotland, thus adding to users' expenses.

"I ended up in having to go to a place in Newcastle to get the pump. I was without water at all in the house for a fortnight, so it wasn't all that straightforward."

(Domestic user, Type B)

Financial support

In addition to the practical support and advice provided by private contractors and local authorities, there was some spontaneous mention of financial support available to private water supply users, with a few users saying they had applied for and used the £800 Private Water Supply Grant.

"We have spent quite a lot of money on upgrading the water supply to ensure that it is as wholesome as possible at source and then is comprehensively treated … That was done through part self-finance and part grant fund."

(Non-domestic user, Type A)

"The council do currently offer £800 grants for water filters if you get a risk assessment or if your water is condemned or something like that…. My neighbours and I all had the grant, and we pooled that, and the plumber renewed the system and the tank."

(Domestic user, Type B)

More generally, however, knowledge of and use of the Grant was limited. It was common for participants to say that information on the Grant was not readily available and/or that they were unclear of details such as the amount available, who was eligible, and how to apply. Others were clearly unaware that *any* such financial support was available.

"We've had [financial support] once that I can remember and that was the £500 [sic] grant from the Scottish Government, and even then it was difficult to find out about. There's a lack of information. Maybe they don't want you to apply for grants because it's all coming out of somebody's budget."

(Non-domestic user, Type A)

"I've never heard of anything about financial support, no one has ever mentioned anything. I've never looked for it and wouldn't have known to look for it. I wouldn't have assumed there was any frankly."

(Non-domestic user, Type A)

Those aware of the Grant tended to have found out about it from environmental health officers, private contractors or by word of mouth, though some also said they had been vaguely aware of a grant being advertised by their local authority around five years ago but were unsure if it was still available.

"Years ago, I got a couple of leaflets just telling you the problems you might get, but not how to solve them. And I think the council certainly used to offer grants… but whether they still are now, I don't know."

(Domestic user, Type B)

While some of those who had used the Grant in the past were grateful for the support, believing it to be "better than nothing", a more common view was that £800 was insufficient to support users with the high costs typically involved in upgrading or installing private water supplies. As mentioned previously, some participants cited repair or installation fees in excess of £10,000 and felt the Grant was a "pittance" towards helping with these costs.

"The money they were offering was just pennies compared to the amount of money required to do anything with the system."

(Non-domestic user, Type A)

"To be honest the Grant didn't even cover the VAT."

(Domestic user, Type B)

At the same time, participants, unaware their supply is registered, and who had previously expressed concern about accepting support or advice from their local authority on account that this might open the door to interference, were often wary of grants for the same reason.

"In the past I had stuff through the door from the Council saying they can offer help but I declined to go any further because of the ongoing responsibility it puts on you for taking that money, as far as coming up to the standards."

(Domestic user, Type B)

"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, Type B)

Awareness of other types of support

Very few participants mentioned or were aware of any other types of support available to private water supply users – including that provided by the DWQR, Citizens Advice Scotland, local community representatives or committees, or legal professionals.

Some had tried looking for information online, though said that it was often difficult to find what they needed. Spontaneous mention of the DWQR website was very rare, reflecting low awareness of the organisation. The minority of participants who had looked at the site reported having found the information too technical and difficult to understand.

"It's like a secret society trying to find [information on private water supplies online]. The websites are vast and huge, you know, and it takes quite a bit of navigating around them. "

(Domestic user, Type B)

"All the advice that comes up when you start typing in [what you are looking for], it's all American websites that come up."

(Domestic user, Type B)

"I've used the [DWQR website] and it was well too complicated for me."

(Domestic user, Type B)

Among those living in more remote areas, unreliable and slow internet connections often served as a barrier to looking for information online. Equally, some older participants did not have internet access by choice or were not confident in using it to search for information.

"If you've got poor Wi-Fi which mine is… half way through a film and you lose it."

(Domestic user, Type B)

"They think everything should go online these days but we don't go on computers and there's lots of people like us in the countryside."

(Domestic user, Type B)

Support needs of private water supply users

Participants were asked what additional support, if any, they would find useful to help them maintain a reliable and safe private water supply. No prompting was used initially to avoid narrowing the range of responses that might emerge.

Subsequently and where necessary, participants were invited to think in terms of training and technical support; financial support; and information on the rights and responsibilities of users.

Participants were commonly of the view that improved support should be available to private water supply users. This view was advanced most strongly by domestic users, reflecting the fact that they generally had less routine contact with their local authority and other support services than non-domestic users.

> *"We need guidance on what support is available, information on different types of well or spring, what you need to do legislatively, also what grants are there."*
>
> (Domestic user, Type B)

> *"You kind of wonder whether there couldn't be a source of information that would help you understand the different kinds of treatment systems and things because certainly we've never found anyone."*
>
> (Domestic user, Type B)

Participants identified a range of different types of support and advice that they would find useful, some of which were touched upon in the previous chapter. These mirrored to an extent the CFU's overarching consumer principles, namely: the availability of **information**; consumer **safety**; and the **accessibility** and **choice** of services.

Availability of information

While participants were generally happy to take responsibility for maintaining their own supply, many said they would welcome additional **technical guidance and information** to help them do this.

> *"If you could have some kind of guidance…like one of those toolkits you can refer to on the internet if you have an issue. You know, the different steps to take…I think that could be really useful."*
>
> (Domestic user, Type B)

> *"Information on good maintenance and management of water systems. Things to look out for, things to spot, so that you can give an estate worker or a maintenance worker a basic understanding of any issues."*
>
> (Non-domestic user, Type A)

At the same time, there was also an appetite for more information on who to contact for technical support in the event of experiencing problems that prove more difficult to resolve.

> *"Even if it was like a road map to say if you've got these issues, these are the experts. Even if it doesn't give you the information but tells you where to go and get it. I've actually got no idea where to ask."*
>
> (Domestic user, Type B)

> *"Not long after I moved in the water just died, the pump died. Nine weeks I didn't have running water. I called the plumber and he was like, 'I have no idea'. So then I had no idea who to ask."*

(Domestic user, Type B)

Less commonly, there was an appetite for a non-commercial consultancy service, through which users could have their supplies assessed by a private water supply professional. It was noted that consultancy services were currently offered by some private contractors but that these often cost hundreds of pounds. Participants suggested that a similar service could be provided by local authorities or another not-for-profit organisation, though they stressed that consultancy should be carried out without any obligations upon the user to make any of the changes or upgrades recommended.

> *"If there was a way that somebody could just honestly and unbiasedly come and check what you're doing, make sure it's all okay, and have a list of people that they would recommend, folk that could come out and help."*

(Non-domestic user, Type A)

> *"Perhaps someone who came along and walked along the supply with you and gave you his or her opinion on it, and gave you a list of things that you may or may not have considered before. So just someone who is not exerting a commercial pressure, and they're not exerting a legal pressure, but just someone who would have a conversation with you."*

(Domestic user, Type B)

Participants would also welcome more information on the rights and responsibilities of private water supply owners/users. Many participants were unclear on the rights and responsibilities of the owners/users of private water supplies and felt such information should be readily and freely available to all users. This was a particular focus for participants who shared a supply with other users or whose water source was located on land owned by someone else, as these groups were often unclear on the respective legal responsibilities of the different parties and what to do in the event of problems, such as disputes or contamination of the source.

> *"Who's around to help? When you get into [community disputes] I'm not sure there's anyone to turn to in the council. I had to turn to private contractors and look online."*

(Non-domestic user, Type A)

> *"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, Type B)

Consumer safety

Participants identified a need for more guidance on how to keep their supplies safe, and what to do if they had any concerns. This was most commonly mentioned by domestic users with registered but untested supplies, who typically had never received any information from their local authority on these matters. There was evident confusion among some such participants as to how to arrange testing, what was involved and what happened afterwards in the event of any issues being uncovered.

"More information on testing is important. Being able to have it tested to put your mind at rest, because I was a bit concerned when I first started [using a private water supply] and saw the colour of the water."

(Domestic user, Type B)

"If there's bugs in it or it's hazardous to health or whatever, where do you go from there? If they did test it and tell you the water was dangerous to your health, there isn't an alternative supply. What are we going to use? That's all there is."

(Domestic user, Type B)

Accessibility and choice of services

In general, participants felt that **improved financial support** ought to be made available to private water supply users. Participants often referred to water as a 'basic human need' and felt there was an onus on the Scottish Government and local authorities to ensure that private water supply users across Scotland had access to safe and reliable drinking water through appropriate funding.

"Water is such an important basic need that it should take precedence in terms of government spending and grants to make sure that rural communities have access to clean and fresh water from a mains supply."

(Non-domestic user, Type A)

Two main types of financial support were suggested: support to help users connect to the mains, and an increased grant to help cover the general maintenance and improvement of supplies.

As noted earlier, those who wanted, and were able, to connect to the mains typically regarded cost as a significant barrier in this regard. Accordingly, they said that a contribution towards this would ease the process, giving them access to a reliable supply and/or eliminating the regular work and costs involved in maintaining their supply.

"I want water from the mains and I want support getting that. Financial support would be fantastic, because Scottish Water are not helping us and are not interested in helping us."

(Domestic user, Type B)

"The most important thing to us is getting consistent, quality water… Support to allow people to connect to the mains would be a very, very good solution."

(Non-domestic user, Type A)

As discussed above, participants commonly thought the existing grant of £800 was not nearly enough to cover the expenses involved in upgrading a supply. Therefore, some participants, most of whom were domestic users, felt a more substantial grant should be made available by the Scottish Government (although specific amounts were not mentioned). These participants tended to be those who were experiencing the greatest difficulties maintaining a safe and reliable supply – whether because of water quality or reliability issues. Others contended that the grant should cover more than

just the one-off capital cost of installing treatment systems; specifically, the ongoing costs involved in maintaining a safe and reliable supply.

> *"With all private water supplies it's all about pounds, shillings and pence, to be honest with you, because the market has changed remarkably in the last ten years with regards to [the cost of] pumps."*
>
> (Domestic user, Type B)

> *"It's going to cost thousands of pounds to put in an alternate supply that would make us feel totally secure for the future, so the best thing that could happen was if these was more money to help us do that."*
>
> (Domestic user, Type B)

As noted above, participants reported difficulties identifying reputable private contractors/suppliers who provided services to private water supply users. Accordingly, they felt that a publicly available **database of approved contractors and suppliers in Scotland** would be useful, giving users greater choice, the ability to shop around for the best price, and peace of mind that they were dealing with a reputable provider.

> *"You'd think the local authorities would maybe, be able to advise people where the cheapest suppliers are. That sort of thing would be quite helpful."*
>
> (Non-domestic user, Type A)

A small number of participants thought that **support networks should be established within local communities for private water supply users**, that would allow communities to share and maintain local knowledge, and provide opportunities for "joined up thinking" – for example, identifying opportunities where households could share a supply, rather than paying to upgrade and maintain individual supplies, or share the costs of connecting to the mains.

> *"A knowledge-sharing base where people can share information or knowledge might be helpful on a community basis, because people round here have got different types of water supplies coming from different areas… and a whole different raft of things to deal with."*
>
> (Non-domestic user, Type A)

> *"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, Type A)

There was a clear sense in which being a private water supply user could be quite a solitary experience, particularly for those newer to their communities and older people for whom getting out and about was difficult. It was felt that community-based networks would help to address this to a degree, providing a means of linking up different users.

"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, Type B)

"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, Type A)

Support mechanisms

There was a consensus among participants that all the types of support for private water supply users outlined above should be available from one source; in other words, they favoured a 'one-stop shop' model they could draw on whenever they experienced any sort of problems or required information about private water supplies.

"It would be good if there was some sort of central place where you can go and get information on private water supplies. And, I think there should be really, because so many people in the UK are using them."

(Domestic user, Type B)

"We need some kind of representative, someone who is gathering information. Somebody that is an expert in private water supplies that is not a private company."

(Non-domestic user, Type A)

While participants were in agreement that this service should be run by a not-for-profit organisation, able to provide independent, impartial advice to users, views on precisely which organisation this might be were mixed. Many suggested their local authority or the Scottish Government (the DWQR was not specifically mentioned). Others said they would prefer a separate, non-regulatory organisation established especially for the purpose. These tended to be participants who were wary of local authority or government involvement in their private water supply.

"The Scottish Government and Council could do it. I wouldn't like to see a private company providing it."

(Domestic user, Type B)

"You would just want council input if you're allowed to keep your private water supply and they're not trying to take control of it."

(Domestic user, Type B)

"I mean government bodies, the moment [they] get involved there's the administration and bureaucracy."

(Domestic user, Type B)

A few participants spontaneously mentioned Citizens Advice Scotland as a potential alternative provider of support. Reinforcing wider research by Ipsos MORI[14], these participants perceived CAS as an organisation that would be able to offer trustworthy, independent support and advice on issues surrounding private water supplies.

"This lack of information cannot be an unusual problem, this must be quite a common issue. Would it be worthwhile at some point of Citizens Advice actually setting up a hub for everybody, you know, for private water users."

(Domestic user, Type B)

"We have a Citizens Advice bureau [here] that I have used before, and it would be good if they had information [on private water supplies] too."

(Domestic user, Type B)

While participants commonly said that any support and advice service for private water supply users could be provided online, they felt it should be available through other channels too, such as by telephone, email, post or face to face, for those users with unreliable or no internet connections and/or who are less confident in using the internet.

"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, Type B)

"It would be lovely if there were people who were knowledgeable about private water supplies that you could get in touch with by picking up the phone."

(Non-domestic user, Type A)

"I would rather they sent booklets through the post really… You know, when they send out the Council Tax bill you often get a booklet of council services or something."

(Domestic user, Type B)

[14] Ipsos MORI. 2015. *Poverty Premium on Scotland: For Citizens Advice Scotland*. Available at: https://www.cas.org.uk/files/poverty_premium_in_scotland_final_11042016.pdf

At the same time, participants felt that, in the first instance, all private water supply users should be contacted directly and made aware of the range of support available to them (including any newly established resource), rather than having to find this information for themselves at a time of need. They suggested this could be done either by post or email, and perhaps within existing council communications, such as Council Tax bills or newsletters. There was also a suggestion that the information should be included in the Home Report for people moving to remote areas.

> *"The Council know who we are because we are registered with them. It can't be that hard for them to send out an email and say, 'There's an improvement grant available if you want to make improvements to your water supply', and you could even click on a link to apply, or go to the website and apply there."*
>
> (Non-domestic user, Type A)

> *"Make people aware when they're buying a property with a private water supply what the implications are and who they could see."*
>
> (Domestic user, Type B)

Several participants suggested that the information should also be generally publically available to ensure that no households on private water supplies miss out.

> *"I think the local press, public libraries, doctors' surgeries, that sort of thing."*
>
> (Domestic user, Type B)

Views on possible support models

In each of the in-depth interviews and focus groups, participants were asked to consider and comment on four specific models of support for private water supply users that are currently in place in other European countries and/or have been recommended in previous studies on private water supplies in Scotland. These were:

- an online information hub containing clear and accurate information on matters such as how to maintain and test a private water supply; the health risks of private water supplies; how to improve water quality; the rights and responsibilities of users and managers; a list of approved contractors; and details of who to contact in the case of any issues.
- a national organisation for private water supply users that delivers education and training; works with communities to develop protection and conservation strategies; provides opportunities for exchanging experiences and advice; and represents users' interests in meetings with regulatory bodies.
- training schemes for private water supply users run by local councils, providing guidance on the maintenance and testing of private water supplies and the rights and responsibilities of users and managers, and;
- a group improvement scheme where water is supplied to a community through an overall, community owned private water supply system, designed and constructed by the local authority, with maintenance and repair costs shared among owners.

Views on the support models varied, though, overall, there was slightly more interest in each among domestic than non-domestic users. The online information hub was the most popular of the models, while the group improvement scheme was the least so – indeed no participants identified this as their preferred option, mainly on the basis that they tended to think such a scheme would not be viable in their particular case. The ideas of a national organisation and local authority-run training scheme received more middling levels of support.

Online information hub

Overall, there was a high level of support for an online information hub. This model mirrored participants' earlier, spontaneously mentioned preference for a single source of support, providing all the information they might need in one place. There was particularly enthusiastic support for the idea of the hub containing a list of approved contractors.

> *"That would be brilliant: a list of information, a list of engineers, a list of contractors, how to test your water, everything like that."*
>
> (Domestic user, Type B)

> *"It would be useful as a first point of contact."*
>
> (Domestic user, Type B)

Participants suggested that the hub could be updated frequently in line with technological advancements and regulatory changes affecting private water supplies. Additionally, they suggested that it might incorporate an online forum, where users could exchange information and advice.

> *"What I think would be good is to have a site that's updated with new technology, new ideas, because a lot of information we got at one stage or another in terms of booklets or brochures very quickly became out of date."*
>
> (Domestic user, Type B)

> *"Once you'd set it up, you'd probably draw in experts in their own field who'd add to the webpage. They'd say 'that's not right, you're better having that kind of supply, you need to add this to the water to improve it'. Then you'd get people, say like me replying back, saying, 'look that's a great idea, that's not such a great idea' and it would probably build up over the years to quite a good website."*
>
> (Domestic user, Type B)

Despite overwhelming backing for the online information hub, some limitations of such a resource were identified. Echoing comments reported earlier in this chapter, some older participants commented that they do not personally go online, while other mentioned the "slow" and "patchy" nature of internet connection in some remote communities. Consequently, participants reiterated their view that any online information resource ought to be supplemented with information in other forms such as leaflets and a helpline.

A national organisation for private water supply users

Attitudes towards the idea of a national organisation were mixed. A number of participants were fairly positive about the idea, albeit their comments were often tentative and peppered with qualifiers such as "quite" and "better than nothing". Commonly cited potential advantages of such an organisation was that it would provide the 'one-stop shop' model of support favoured by participants, and would be especially useful to those new to private water supplies, facing any problems with their supplies. There was also evident enthusiasm about opportunities it might create for the exchange of experiences and expertise among users.

> *"Well just that there's something that you know where to go to."*
>
> (Domestic user, Type B)

> *"At the moment, it obviously seems there is stuff out there but we have no idea how to find it. Even just someone doing a database [of information for private water supply users] and pulling it together and keeping it up to date is invaluable I think."*
>
> (Domestic user, Type B)

> *"I think actually the discussion we have had tonight has been extremely useful and I think sharing experiences probably would be a good thing."*
>
> (Domestic user, Type B)

In line with previous comments on the provision of support for users, participants felt that a national organisation should be independent in status; something they felt was appropriate, enabling the organisation to "represent private water users at any meetings or things with the local authorities and government." They also assumed the organisation would likely be staffed by experts in private water supplies, thus plugging what some of them saw as the significant gap in expertise among local authorities.

> *"You are on your own. And if there is a representative body that represents more than one individual who's in the same situation it's got to be a good thing."*
>
> (Non-domestic user, Type A)

> *"Because it's non-political and non-governmental it'll probably be better run because it'll be run by businessmen and engineers who know what they're talking about."*
>
> (Domestic user, Type B)

However, two main concerns were raised about a national organisation. Firstly, there was a perception, particularly, among non-domestic users, that it would simply represent an additional layer of "bureaucracy" staffed by "jobsworths", and thus would not provide value for money. Questions were also raised around the funding of the organisation and about how it would be governed.

> *"You're just building another layer of people doing nothing that the council are already doing and it's a total waste of time and money."*

(Non-domestic user, Type A)

"It sounds like jobs for the boys really. No, less red tape the better, in my opinion."

(Non-domestic user, Type A)

"Who is going to pay for this and how will it be funded?"

(Non-domestic user, Type A)

Secondly, and reflecting the clear self-sufficiency of many users when it came to managing and maintaining their supplies there was concern about possible low uptake of any services offered by a national organisation.

"I think people in remote locations are much more used to just having to get on and fix things themselves. There's much less dependence on, 'oh, something's burst, I'd better phone somebody and pay them to come and fix it'."

(Non-domestic user, Type A)

Local authority-provided training schemes

There were mixed views among participants on the idea of training schemes run by local authorities. On the one hand, participants recognised that these could be a useful way of spreading knowledge and expertise, especially to people with little experience of using a private water supply. In light of the heterogeneity of private water supply types, and thus of users' needs, such participants considered that training on basic and universal issues such as rights and responsibilities, testing, filtration, drainage and safety issues, would deliver the greatest value.

"I would appreciate that, yes. I've had to learn the hard way."

(Domestic user, Type B)

"Understanding gravity and understanding filtration."

(Domestic user, Type B)

"I think the basics would be useful… drainage is actually quite a big worry, because you can probably control what is coming into your house, but it's much harder to control what's going out."

(Domestic user, Type B)

On the other hand, participants often felt that they had personally reached a stage where they were no longer in need of training. Accordingly, they questioned likely take-up of training, with one participant reporting that 'when things [like this] have been offered, the take-up is sometimes low.'

There was also evident resistance in some quarters to local authority involvement in training, which reflected concerns discussed earlier about any developments that might ultimately lead to increased interference in, and additional, unwelcome regulation of, private water supplies.

"It would start off with a training scheme and then [the Local Authority] would get involved.... If they think they can benefit from it, they'll just bulldoze their way into private water supplies. They do it for land, for building or whatever."

(Domestic user, Type B)

"I wouldn't want to get involved there at all because Mr Jobsworth would come along and make it all too difficult and, 'have you got planning permission for your well and have you done a health and safety audit and have you done a wildlife audit and are you interfering with bats, newts, frogs, toads, badgers?' It would just get out of hand."

(Non-domestic user, Type A)

A group improvement scheme

Participants tended to regard the idea of a group improvement scheme as good in theory – in the sense that it could lead to the pooling of resource and the sharing of costs. However, they commonly felt that such a scheme would not be logistically possible for them/their area. Specifically, many stated either that there were no other households near enough to them with which they might share a supply; or that mountains, glens, rivers, and electricity and telephone lines between properties presented physical barriers that would be difficult to work around.

"A nice idea if you could pin it all together and have some sort of system."

(Non-domestic user, Type A)

"Wouldn't you need a few properties within reasonable striking distance, rather than like two miles off the road? There are lots of places that I just think they couldn't link up, could they really?"

(Domestic user, Type B)

"There is a thousand-foot mountain just in front of me, between me and the next supplier."

(Non-domestic user, Type A)

"You're going long distances underground ... cutting through electricity and telephones and all those things."

(Domestic user, Type B)

Concerns were also raised about the potential costs involved in establishing a group improvement scheme, notwithstanding any long-term savings that might be accrued. Many participants had invested heavily in their own pumps, tanks and treatment systems, and felt it would not be in their interests to now invest in a new joint supply. A few made reference to stories they had heard about group schemes that had been set up elsewhere and not had the positive impact expected.

"If it was all done there and then, starting from scratch it might be a good idea, but [not] for somebody with an existing well."

(Domestic user, Type B)

"They put in a very expensive system in [town] and also another system in [a nearby town] which doesn't seem to have been working. I don't know the details of it but people are grumbling about it and saying what a huge waste of money it was."

(Non-domestic user)

There was additional concern that a shared supply could lead to disagreements or disputes between users, for example, in the event that their respective water usage varied.

"The trouble is you'd have some people maybe not using so much water and other people using gallons of water and then you'd have to work out how do you maintain the pump and there's always, 'No, I can't afford to have the pump serviced this year, we'll have to wait a year.'"

(Domestic user, Type B)

4. Conclusions and Recommendations

Conclusions

The research findings presented in this report confirm there is need for improved support and advice for private water supply users, to help ensure all households and non-domestic organisations across Scotland have access to safe and reliable sources of drinking water.

Despite participants' high levels of overall satisfaction with their private water supplies, it was clear that some did not have access to a clean, reliable supply. Domestic participants often had untested private water supplies, and were often unaware of and/or unconcerned about associated health risks. Accordingly, a small number of domestic users did not have the necessary safety measures in place to ensure their supply was wholesome, describing drinking from a raw, unfiltered source. Non-domestic participants invariably had more sanitary arrangements in place but several professed to allowing neighbours to take raw supply from their source.

Participants had drawn on very few sources of support or advice in attempting to resolve problems they had experienced with their private water supply, preferring instead to rely on their own resourcefulness. While this in part reflected the finding that many of them were very self-sufficient, it also appeared to be tied in with generally low awareness of the range of support and advice available, including that provided by local authorities and private contractors.

In terms of the support and advice they were aware of/had used, perceptions of these were often quite negative. Local authority testing was thought to be too expensive, with concerns over the expertise of staff and increasingly strict water quality regulations. Among domestic users, there were concerns that local authority involvement could result in their losing control of responsibility for their supply, or in having their supply condemned. Meanwhile negative comments about private contractors were focused on the perceived high costs of their services and a lack of local, reputable suppliers.

Reflecting these views, and despite their high levels of self-sufficiency, participants were commonly of the view that improved support should be provided to private water supply users. They spontaneously identified several different types of support that they would find useful, such as technical support, lists of approved contractors, and information and advice on issues such as health and safety, and the rights and responsibilities of private water supply users. In terms of how this support might be delivered, participants expressed a preference for a 'one-stop shop' model – ideally provided by an independent not-for-profit, organisation.

In addition to these practical support needs, the research highlighted the sometimes significant financial challenges involved in sustaining a private water supply. Regular maintenance and upkeep had cost some participants hundreds or thousands of pounds, with the costs of upgrading or installing a supply sometimes running into the tens of thousands. Awareness of the Private Water Supply Grant was limited and those who knew the most about it tended to say that £800 was insufficient to cover the costs involved in making upgrades to a private water supply.

Recommendations

As is implicit in the foregoing, the research points to a number of different ways in which decision makers could develop policy to improve the support systems available to private water supply users. These can be grouped under two key headings: *types* of support and advice that users require; and *mechanisms* for delivering these.

Types of support and advice

Financial assistance

- improving financial assistance available to users: Low awareness and take-up of the Private Water Supply Grant suggest a need for it to be better promoted among private water supply users. This would include making them aware of details such as the value of the Grant, eligibility criteria, what it can be used for, and how to apply. At the same time, the research suggests a need for *increased* financial support, including to help households connect to the mains – not least in cases where a private water supply is not wholesome.

Information and support to connect to mains supply or community schemes

- guidance on how to connect to the mains: The apparent lack of clarity among participants as to whether or not it was possible for them to connect to the mains indicates a clear need for information provision in this regard. Households using private water supplies should be contacted by their local authority or Scottish Water and told definitively whether connection is an option for them, what this would entail, and the types of practical and financial support (if any) available.

- community sharing schemes: In some communities, there appeared to be potential for households to share a private water supply or the costs of connecting to the mains, rather than maintaining their own individual supplies. There may be scope for local authorities and/or other agencies to work with local communities to identify such potential more widely and help take it forward.

Health and safety

- providing information and advice on health and safety: Given participants' sometimes unconcerned attitudes towards the health risks associated with their private water supply, as well as some of the symptoms they had experienced, there is a clear need for measures to increase awareness of the risks; for example, information on the symptoms users may experience if they are drinking from a contaminated supply and who to contact should they have any concerns (for example, their local authority and/or GP).

- guidance on the safety measures that users can put in place to minimise health risks, such as filters, UV lights, and water chlorination.

Clarifying the private water supply registration and testing process

- clarity in the registration process, what specifically users are required to do as a result of being registered and the associated benefits, could go some way towards dispelling any misconceptions among domestic users around the potential for unwanted local authority interference.

- information and assurances around water quality testing, to build confidence in the process and to reinforce the message among domestic users that, though there is a threshold at which a water supply would be regarded as not meeting the water quality standards, in the case of smaller domestic supplies local authority guidance is for the most part advisory. There may also be scope to provide local authority personnel with additional training or technical guidance to ensure consistently high standards in the testing process across Scotland, and to train Environmental Health Officers to provide users with more information and support, such as providing detailed information of the financial grant.

Mechanisms for delivering support and advice

- Given the dispersed nature and, likely related to this, participants' low awareness of support and advice currently available to private water supply users, the various forms of support and advice outlined above would best be delivered through a new and dedicated support service that can function as a 'one-stop shop'.

  Ideally this service would be provided by an independent, not-for-profit, body set up for private water supply users (similar to the National Federation of Group Water Schemes in Ireland). Local Authority responsibilities could potentially be transferred to this body, which may help in terms of engaging those users resistant to local government 'interference' in their private water supply. The body could not only provide support, advice and training, and details of approved suppliers, but also represent the interests of private water supply users and communities in meetings with regulatory bodies.

  As part of this dedicated service, an online information hub for private water supply users should be considered. As suggested by some participants, the hub could incorporate discussion fora through which users could exchange information and advice, thus providing a platform for the informal support and advice that they clearly found so valuable. However, as discussed above, it is crucial that any support and advice for private water supply is made available through multiple channels, not just online. For example, support should also be offered via telephone helplines, hard-copy information leaflets/packs, a smartphone app and/or face-to-face advisors.

  The dedicated service could also offer consultancy services, offering free or subsidised servicing appointments to private water supply users, where a private water supply professional would carry out an assessment of their supply and make recommendations for improvements. These assessments should be carried out without any obligation upon the user to make changes or upgrades to their supply.

- Alongside the dedicated service, the research suggests there could be value to be had from:

  - working with communities to support private water supply users. Community trusts or committees could be set up to help identify and support local private water supply users on the ground and to further encourage the maintenance and sharing of local knowledge and ideas, including opportunities to share supplies or connect to the mains.

  - pooling/sharing best practice across Local Authorities: Despite generally negative views of Local Authorities among participants, there were some who valued the services they received. With this in mind, and given the inconsistent levels of support for private water supply users that has been identified

among Local Authorities[15], Local Authorities should work together to share best practice and knowledge, to develop a shared and consistent model of support for private water supply users nationwide.

- Citizens Advice Scotland providing support to private water supply users, for example, offering support to help resolve disputes over rights and responsibilities through their bureaux, by providing independent advice and arbitration in these circumstances.

- Whatever new support is provided and whatever mechanisms are chosen through which to deliver this, it will be crucial that, in the first instance, private water supply users are contacted directly to make them aware of their registration and any range of support and advice available to them, including financial support, in order that they can benefit from them immediately. This might best be done by post/email and supplemented with appropriately targeted advertising campaigns in local media to ensure maximum reach. Since some older participants and those living in remote, rural locations often had limited or no internet access it is important that information is not provided solely online. Information on health and safety could also be made available at GP surgeries through posters or leaflets, while information for new private water supply users could be provided on council tax bills or Home Reports.

[15] Citizens Advice Scotland. 2016. Improving information and signposting for users and managers of private water supplies and private sewerage facilities. (unpublished).

Appendix 1

CFU PRIVATE WATER SUPPLY FOCUS GROUPS

DISCUSSION GUIDE – V3

1. INTRODUCTION (5 MINS)

- Thank you for joining us today. My name is <insert name of moderator>, and I work at the independent research company Ipsos MORI. Has anyone heard of Ipsos MORI before?

  (VERY BRIEF INTRODUCTION TO THE COMPANY).

- Introduce the research: The topic for discussion today is private water supplies. We want to explore your views about your private water supply, and look at the types of support, if any, users of private water supplies, may need.

  This research has been commissioned by the Consumer Futures Unit at Citizens Advice Scotland which represents consumers' interests in, amongst others, the water industry.

  They are involved in important ongoing discussions with government and other water regulation organisations about improving the support available to private water supply users, and so want to have a better understanding of consumers' views about this topic to be able to represent them effectively.

- Practicalities:

  - Explain that the group will last 90 minutes
  - Provide reassurances of anonymity and confidentiality. Explain that no information about individuals will be passed on to anyone outside the research team.
  - No right or wrong answers. Give everyone a chance to speak.
  - Request permission to record interview.
  - Housekeeping (fire alarm, toilets, mobile phones etc.)

- Any questions you'd like to ask before we start?

2.BACKGROUND INFORMATION ON PARTICIPANTS (5 MINS)

Perhaps before we begin you could each just introduce yourself….

WRITE THE INTRODUCTION PROBES BELOW (HIGHLIGHTED) ON FLIPCHART BEFORE GROUP STARTS.

ASK EACH PARTICIPANT:

So, could you tell me your name, where you live, how long you've lived in the community, how long you have been using private water supplies in your home, and what for?

And do you know what type of supply is it? (e.g. groundwater, surface, well, borehole)

Do you share your supply with others?

Thanks for that everyone. So first of all, can I ask you all – why do you use a private water supply?

PROBE: Was PWS all that was available to them or did they choose not to use mains supply. IF A CHOICE, PROBE: Why did you choose not to connect to mains?

And who here is:

- The owner, manager or a named relevant person of their private water supply
- And who is a user of the supply

And, as far as you are aware, what aspects of your private water supply are you responsible for? PROBE:

- General maintenance of supply
- Arranging testing of the supply
- Changing filtration systems
- Notifying users of any water quality issues
- Making repairs/improvements to the supply
- Looking for alternative sources if supply dries up

And do you know if your supply is registered with your local authority? IF NOT: Is there any reason for this?

4. WARM-UP EXERCISE – INITIAL VIEWS ON PRIVATE WATER SUPPLIES (5 mins)

I'd like to start very generally by asking you what words phrases or images come to mind when you think about your private water supplies.

PROBE FOR POSITIVES AND NEGATIVES

RECORD ON FLIPCHART – HAVE COLUMN FOR POSITIVES AND NEGATIVES

5. SATISFACTION WITH PRIVATE WATER SUPPLIES (20 mins)

Overall, how satisfied or dissatisfied would you say you are with your private water supply? Why do you say that?

WATER QUALITY

Thinking specifically about the ***quality*** of your private water supply – including the taste, colour, and smell of the water – how satisfied or dissatisfied are you with this?

IF NOT ALREADY MENTIONED: Has anyone experienced any problems with the quality of their supply since they started using it in terms of: taste, colour, smell, or any form of contamination? What sort of problem?

FOR ANY PROBLEMS EXPERIENCED ASK:

- Have you done anything to resolve this problem?
- IF YES: What did you do? IF NOT: Why not?
- How easy/difficult was it to resolve?
- How confident are you that the problem has been sorted?
- How confident are you that you and/or your community will be able to sort future issues?

Under what circumstances would you stop using your supply for drinking water?

Has anyone had to test their water supply/deal with a test failure?

The Drinking Water Quality Regulator of Scotland has a number of safety guidelines for users of private water supplies to help them maintain a reliable and safe private water supply. Do you know what sort of things these might be?

PROVIDE PARTICIPANTS WITH HANDOUT DETAILING WATER QUALITY STANDARDS AND READ OUT.

- Is any of this new to you?
- Have you taken any of these steps for your own supply?
- Do you think these steps are sufficient to allow you to maintain a safe water supply?

QUANTITY/RELIABILITY OF SUPPLY

Now thinking about the ***reliability*** of your supply, how satisfied are you with that?

IF NOT ALREADY MENTIONED: And has anyone experienced any problems with the quantity or reliability of their supply since they started using it?

PROBE IN RELATION TO:

- Shortages to their water supply or loss of water pressure? (e.g. flooding; water source drying up)
- Problems due to demands put upon water supplies due to tourist industry or farming

FOR ANY PROBLEMS EXPERIENCED ASK:

- Have you done anything to resolve this problem?
- IF YES: What did you do? IF NOT: Why not?
- How easy/difficult was it to resolve?
- How confident are you that the problem has been sorted?
- How confident are you that you and/or your community will be able to sort future issues?

How confident are you that your water supply won't run out in the future? Why do you say that?

MAINTENANCE OF SUPPLY

In terms of the ***maintenance of your supply***, , such as repairs and general upkeep, how satisfied would you say you are with that?

IF NOT ALREADY MENTIONED: And has anyone experienced any problems with the maintenance of their supply since they started using it?

PROBE IN RELATION TO:

- Repairs required to the treatment or storage of the supply
- Repairs/maintenance costs
- Power cuts

FOR EACH PROBLEM EXPERIENCED ASK:

- Have you done anything to resolve this problem?
- IF YES: What did you do? IF NOT: Why not?
- How easy/difficult was it to resolve?
- How confident are you that the problem has been sorted?
- How confident are you that you and/or your community will be able to sort future issues?

RELATIONSHIP WITH OTHER USERS

- How satisfied are you with your relationship with any other users of the supply?
- Has anyone experienced any problems in or difficulties in this regard, such as disputes over use of the supply or who is responsible for repairs, maintenance or testing a PWS?
- Has anyone experienced disputes or disagreements with the owner or manager of the supply?

PROBES

- Have you done anything to resolve this problem?
- IF YES: What did you do? IF NOT: Why not?
- How easy/difficult was it to resolve?
- How confident are you that the problem has been sorted?
- How confident are you that you and/or your community will be able to sort any future such issues?

6. AWARENESS/EXPERIENCE OF EXISTING TYPES OF SUPPORT (30 mins)

We've talked a bit about your general thoughts on your private water supply, some of the issues you have experienced, and what you did to address these. I'd now like to look in a bit more detail at support and advice for private water supply users.

I'm going to read out some things you might need support and advice on, and I'd like you to think about what you would do or where you would turn, if anywhere, for this type of support or advice

[ISSUES CARDS] FOR EACH CARD IN TURN, ASK PROBES BELOW.

SOME SUPPORT/ADVICE TYPES MAY ALREADY HAVE BEEN MENTIONED IN SECTION 5 SO YOU CAN REFER BACK TO THESE IF RELEVANT.

YOU MIGHT NOT HAVE ENOUGH TIME TO COVER EACH, SO AIM TO SPEND AROUND 5-10 MINUTES ON EACH.

FACILITATORS: YOU MAY NEED TO ALTERNATE WHICH ISSUES YOU COVER IN EACH GROUP – DISCUSS PRIOR TO GROUP.

PWS ISSUE CARDS
1. *Improving the overall quality of your water supply*
2. *Testing your water supply to make sure it complies with quality standards*
3. *Knowing how to repair and maintain the treatment system of your supply – e.g. changing a filtration system*
4. *Finding out how to work with other people in your community to maintain your supply*
5. *Covering the costs of repairing and maintaining the treatment system of a supply*
6. *Improving the reliability of your water supply (e.g. dealing with the demands put upon supplies due to the tourist industry or farming)*

- So, where would you go or what would you do if you needed support or advice on this?

- Are you aware of any other sources of support or advice on this apart from those you have mentioned? IF NECESSARY, PROBE:

  - [FOR ISSUES 1, 2, 3 AND 6] Local plumbers/contractors
  - Landowner/PWS manager
  - Informal support (e.g. local knowledge of neighbours/people in community)
  - Support from Local Authority
  - Community representatives/committee
  - Online
  - DWQR (Drinking Water Quality Regulator) website
  - Any other organisations (SG, Environmental health officers etc)
  - [FOR ISSUE 5] Private Water Supplies grants scheme

WRITE ALL SOURCES OF SUPPORT MENTIONED ON FLIPCHART – HALF PAGE/ONE PAGE PER ISSUE.

[IF NOT PREVIOUSLY DISCUSSED] Has anyone used this type of support/advice before to resolve this type of issue with their supply?

IF YES:

- How easy was it to access this type of support/advice? Any barriers? *e.g. access to the internet; costs; difficult to arrange/contact; not sure how to contact*
- How satisfied were you with the support you received? Why?
- IF DISSATISFIED: How could it have been improved?

IF NO:

- Did you know that this type of support was available to private water supply users?

- And is this a type of support you think that you would use if you had a problem? IF NO: Why not?
- How easy would it be for you to access this support? Any barriers? e.g. access to the internet; costs; difficult to arrange/contact; not sure how to contact

7. SUPPORT NEEDS (10 mins)

We've talked about the types of support that are available for users of private water supplies. Are there any other types of support you or your community would like to help you maintain a reliable and safe private water supply?

PROBE IN RELATION TO:

- Financial support
- Training
- Technical support
- Community committee for PWS users

FOR EACH TYPE OF SUPPORT IDENTIFIED, LIST ON FLIPCHART AND PROBE:

And who would you like to provide this support or advice? PROBE IF NECESSSARY:

- Supply owner/landowner
- Local authority/ Environmental Health Office
- Scottish Government / DWQR
- Someone in the local community (if so, who?)
- An organisation who represents interests of PWS users
- A professional / contractor / tradesperson

[IF NECESSARY] And how would you like it to be provided? PROBE:

- Website/Online (additionally probe on attitudes to using internet)
- Smartphone App
- Information pack (hard copy)
- Training course
- Telephone helpline
- Face to face adviser

AFTER GONE THROUGH ALL CARDS, SUMMARISE ALL THE DIFFERENT TYPES OF SUPPORT ON FLIPCHART SHEET(S).

8. VIEWS ON OTHER KINDS OF SUPPORT (10 mins)

Finally, I'd like to get your thoughts on other possible types of support and advice for private water supply users. We have some examples from other countries across Europe. For each one can you tell how useful you think this would be for you and your community.

[OTHER TYPES OF SUPPORT CARDS] LAY OUT SUPPORT CARDS ON TABLE. THEN DISCUSS PARTICIPANTS' VIEWS ON THESE SUPPORT TYPES.
FACILITATORS: YOU MAY NEED TO ALTERNATE WHICH ISSUES YOU COVER IN EACH GROUP – DISCUSS PRIOR TO GROUP.

SUPPORT CARDS
Training schemes for PWS users run by local councils
A national organisation for PWS users in Scotland
A group improvement scheme
An online Information Hub

What do you think about these different kinds of support?

FOR EACH, PROBE:

- Is this something you would like and would find useful? Why/why not?
- What are the advantages/disadvantages of this?
- Do you see any problems implementing this in your community?

- [FOR CARD 3] Is this possible in your community? Who should pay for this? Do you think people in your community would need extra help to make this work? (e.g. financial support; training; technical support)

9. PRIORITIES (5 MINS)

LAY OUT FLIPCHART WITH SUPPORT TYPES OF TABLE ALONG WITH THE SUPPORT CARDS JUST DISCUSSED (OR STICK TO WALL IF EASIER)

[ISSUE STICKY DOTS TO PARTICIPANTS]

So finally, as a group, from all the different types of support we've mentioned today, what would you say would be the three most important types to help you and your community maintain a reliable and safe private water supply? Please stick a dot next to the ones you this are most important.

SUMMARISE MOST IMPORTANT TYPES SELECTED BY PARTICIPANTS.

CLOSING

Thank you for all your input tonight. Before I finish up are there any final comments or questions?

The findings from tonight will be fed back to Citizens Advice Scotland, along with those from similar discussions that are taking part in other area across Scotland. As I said at the start, the research will help them in their discussion with Scottish Government about the development of support for private water supply users, so your input is really valuable.

RECONTACT QUESTION:

Just to let you know, as part of a wider programme of research, Citizens Advice Scotland will be involved in discussions with the Drinking Water Quality Regulator Scotland to help improve the support and advice services available to private water supply users.

In the future, the Drinking Water Quality Regulator Scotland may want to conduct follow up research with private water supply users to help them design and develop new types of support and advice, such as a Online Information Hub for Private Water Supply Users.

Are you willing to have your name and contact details passed on to the Drinking Water Quality Regulator team for this purpose? Your contact details would not be shared with anybody outwith the Drinking Water Quality Regulator Team in the Scottish Government. Just sign the box on the sheet we have here if you are willing to share your contact details.

And just to confirm, if you are invited to take part in the research, you will be free to refuse if you then decide you not want to take part.

DISTRIBUTE INCENTIVES. THANK AND CLOSE

IF WILLING TO BE RECONTACTED, REMEMBER TO RECORD NAME AND DETAILS ON SPREADSHEET

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