Drinking Water 2021

Private water supplies in England

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dwi

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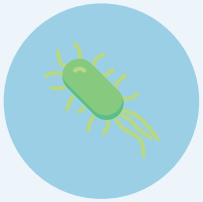
Contents

Key headlines

How to reduce the risk of contamination and protect public health

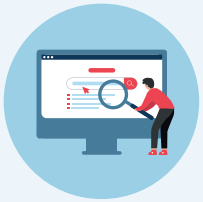
Risk assessment to identify risks and manage them to an acceptable level.



293 supplies with one or more *E. coli* detections with no risk assessment or with a risk assessment overdue for review.

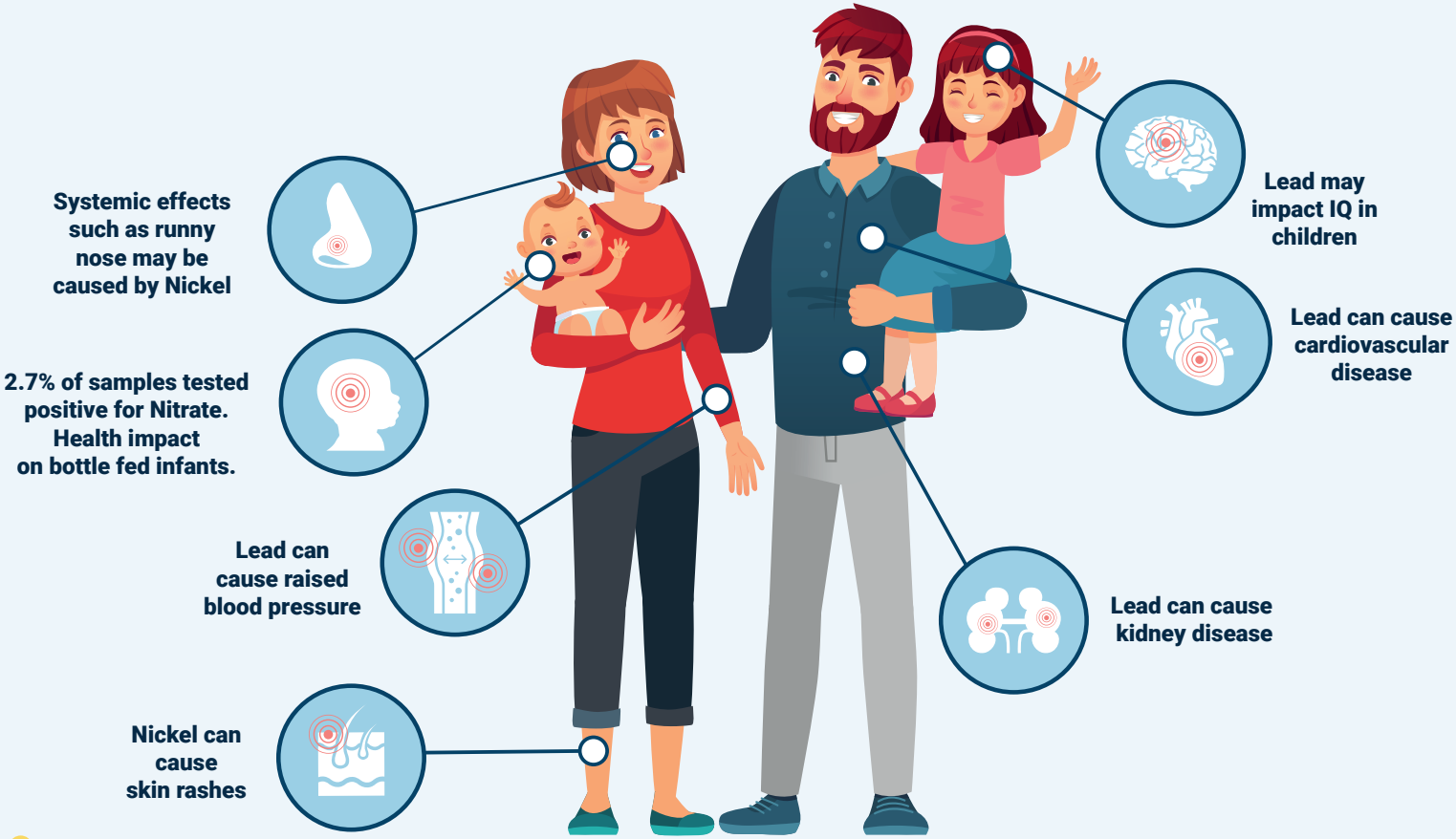
12,735 supplies require a risk assessment, and only 5,323 (41.7%) have one that has not expired.

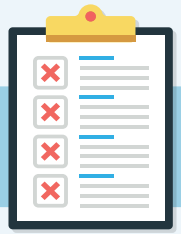
Local authorities served 285 regulation 18 notices in 2021 where the water constituted a potential danger to human health. However, in 2021, there were 744 samples that identified faecal contamination.



Refer to the Inspectorate's website for assistance. New in 2022 – searchable guidance to the Regulations and searchable case studies.

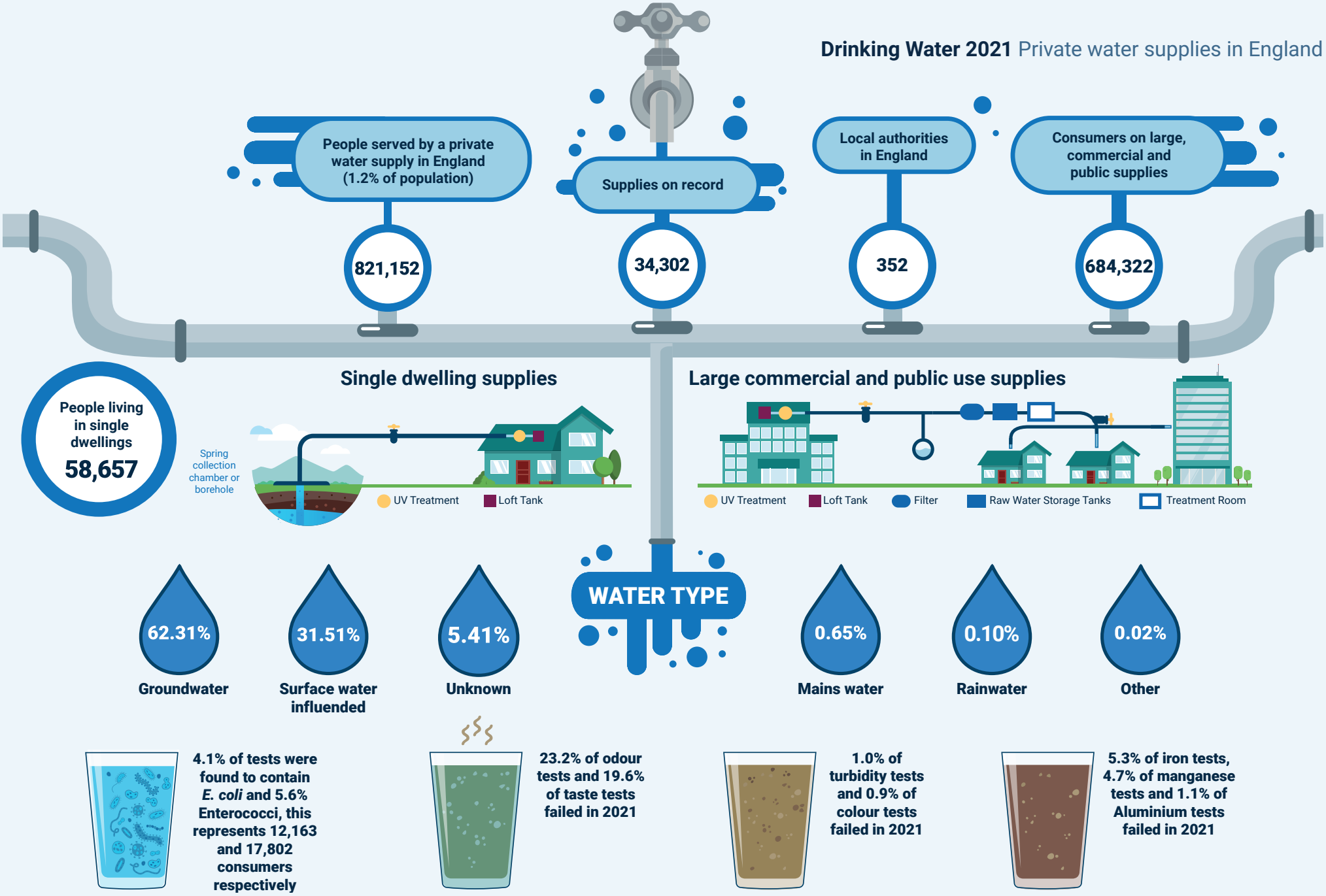
Multiple negative health effects





Nickel tests failed in 2.6% of samples | **Lead tests failed in 2.8% of samples** | **0.1% of tests for pesticides failed the total-pesticides standard.**

Drinking Water 2021 Private water supplies in England



1. Introduction

1.1 A description of private supplies

A private water supply is any water supply which supplies one or more properties, that is not provided by a water company. Around 1% of the population in England use a private supply, which can originate from a range of sources including boreholes, natural springs, and water courses.

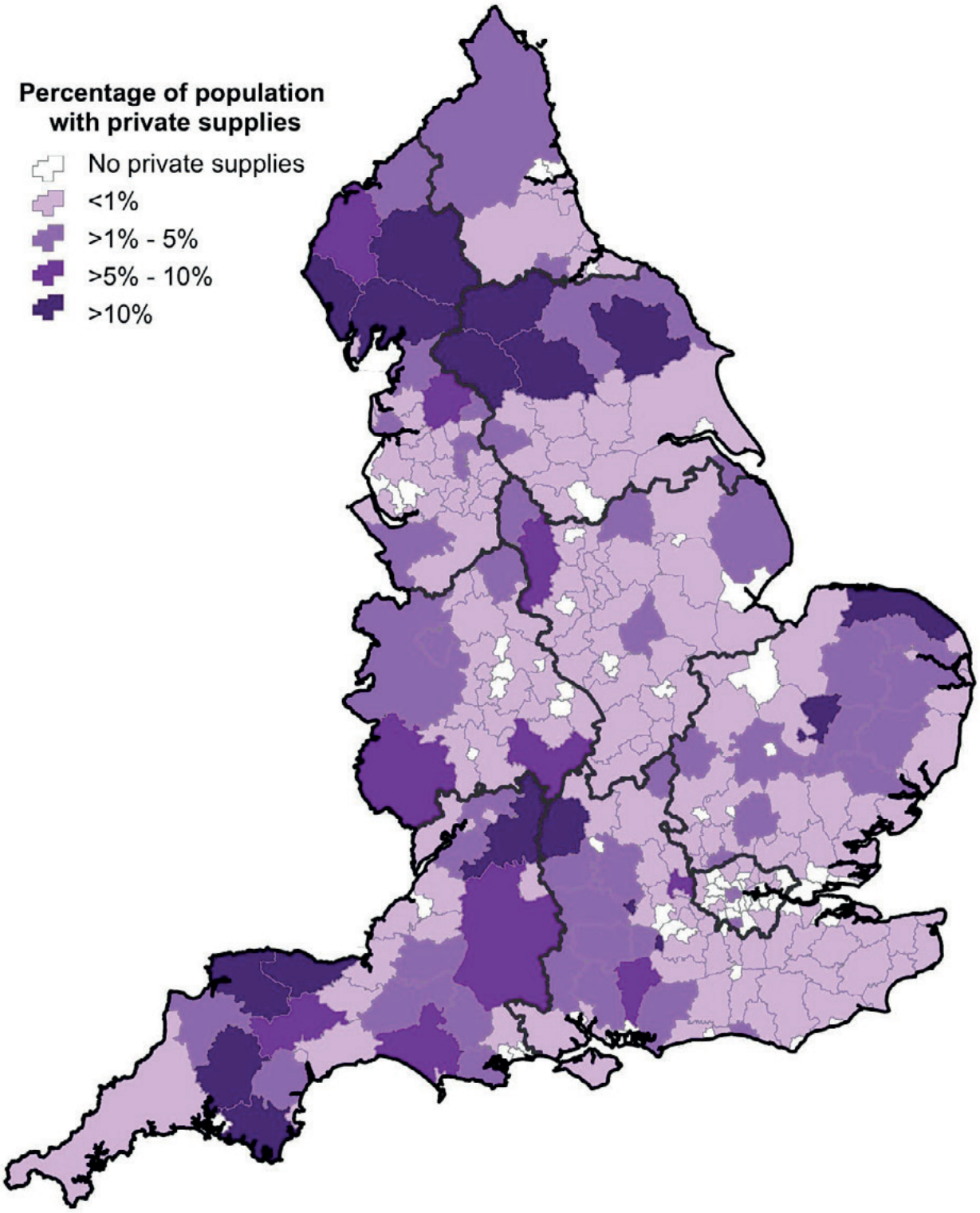
1.2 The locations of private supplies

Private water supplies are found across most regions of England. The highest numbers are usually found in rural areas where connection to the public mains network may be difficult. Figure 1.1 shows the density of the supplies across England.

In 2021, local authority records reported a total of 34,302 private supplies in England (36,913 in 2020), 56.0% of which serve a single household, representing 7.1% of the population served by a private supply.

Figure 1.1

Private water supply in England



1.3 The importance of regulating private supplies

A private supply is one which is not connected to the public mains of water companies in England. Typically, these provide water to approximately 1% of the population in England covering not just domestic supplies to households but also those to commercial premises such as farms, bed and breakfast accommodation, hotels, sporting clubs, manufacturers and other businesses. The contribution to the economy as well as the health and welfare of a small but notable population of nearly 821,152 is likely to be of significance.

The standards and principles of regulation are the same for both public and private supplies and therefore the expectation should be that the level of quality should be the same, however, this is not the case. It has been recognised for some time that small private or community supplies are more often of a poorer quality as evidenced by the relative numbers of indicators of faecal pollution when compared to the public mains supply.

The reasons for this are complex but in part the resources necessary to achieve this can be disproportionate when maintaining a small supply. For instance, technical knowledge covering geology and catchment science, borehole construction, treatment and distribution engineering as well as water quality and risk assessment are highly specialist skills and often inaccessible to private supply users. These difficulties can be exacerbated by property and ownership arrangements where a source may not be in the control of the user, and it may not be known who is responsible for the upkeep, or no-one accepts responsibility, leading to neglect. In these instances, necessary safeguards can be absent such as lack of adequate maintenance and poor management practices.

The principle of water supply regulation is one of self-regulation by owners/ users/ controllers, and independent scrutiny by the regulator, which for private supplies is the local authority.

Environmental health staff of local authorities are critical to regulating private supplies. They are accountable for locating and registering those that are known and carrying out water quality risk assessments. Risk assessments are fundamental in identifying risks, how these might be observed, managed and controlled though a plan to protect public health. This helps users become better informed to manage supplies safely and, where necessary, carry out improvements to mitigate any risks identified to water quality.

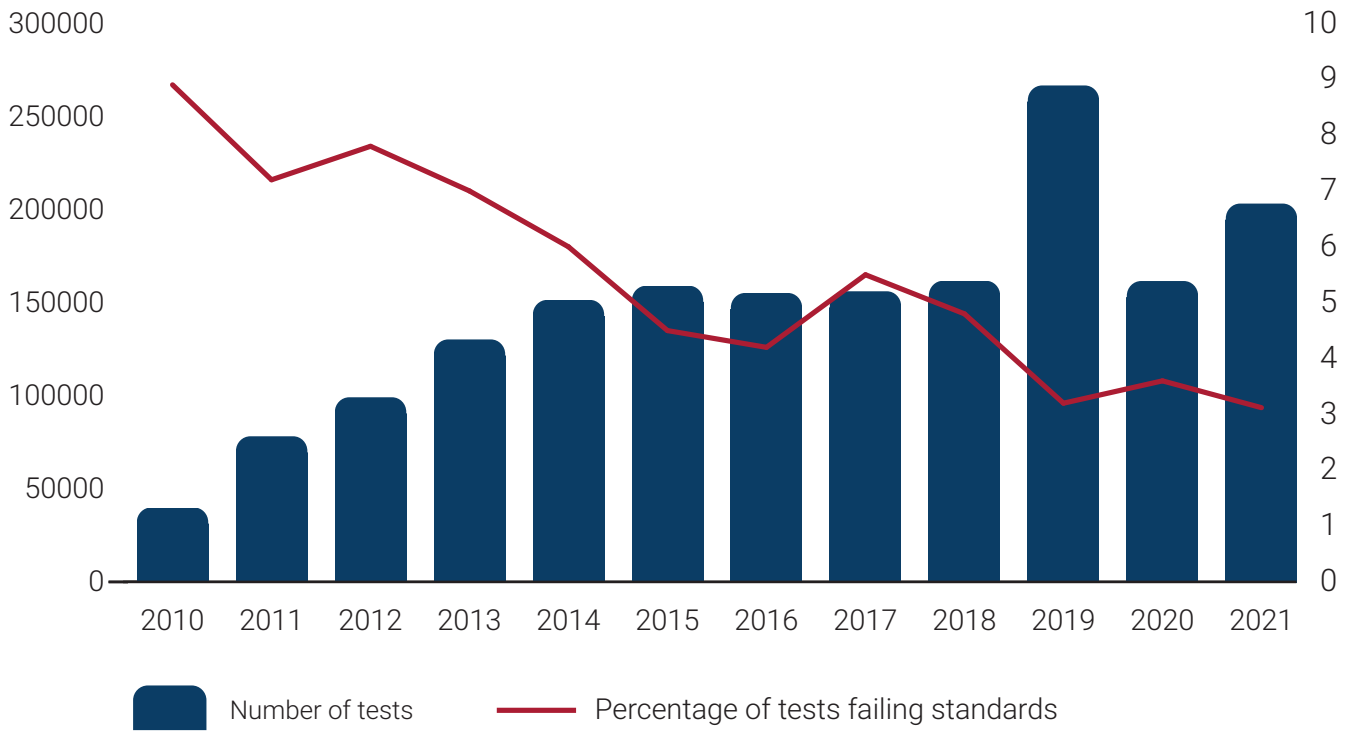
As the challenge of global warming tightens its grip on sufficient water supplies, it is becoming ever clearer how vulnerable some private water supplies are, and this is evident by the increasing numbers that run dry in periods of drought. Risk assessment should identify these supplies and contingency plans should be established. As the water companies begin to work on the business plans for Asset Management Period 8, there should be a dialogue between them and local authorities to explore first-time connections.

1.4 Quality of Private Supplies

In 2021, 3.1% (6517) of 209,172 tests by the local authorities in England were found not to be meeting the microbiological and physico-chemical standards for wholesomeness. Due to the exceptional circumstances of 2020, the rise in the number of samples taken by local authorities seen in 2019 was subsequently reduced by 39% . Nevertheless it is encouraging that in 2021, test numbers have increased to 209,172, hopefully indicating a back on track strategy whilst still 64,612 less than 2019s. This is despite some pandemic restrictions being in place for periods during the year. Figure 1.2 shows that overall there has been a reduction in tests failing the regulatory standards.

Figure 1.2

Percentage of tests failing to meet the standards for wholesomeness and the number of tests



1.5 The significance of sample results

4.6% of tests in England during 2021 showed faecal contamination, with 4.1% of samples tested found to contain *E. coli* and 5.6% containing Enterococci. These organisms are almost exclusively found in faeces, indicating a potential danger to the health of those drinking this water.

The percentage of samples collected from supplies found to be contaminated by *E. coli* and Enterococci, in the period 2010-2021 is shown in Figure 1.3:

Figure 1.3

Percentage of supplies sampled in 2010-21 found to contain *E. coli* or Enterococci

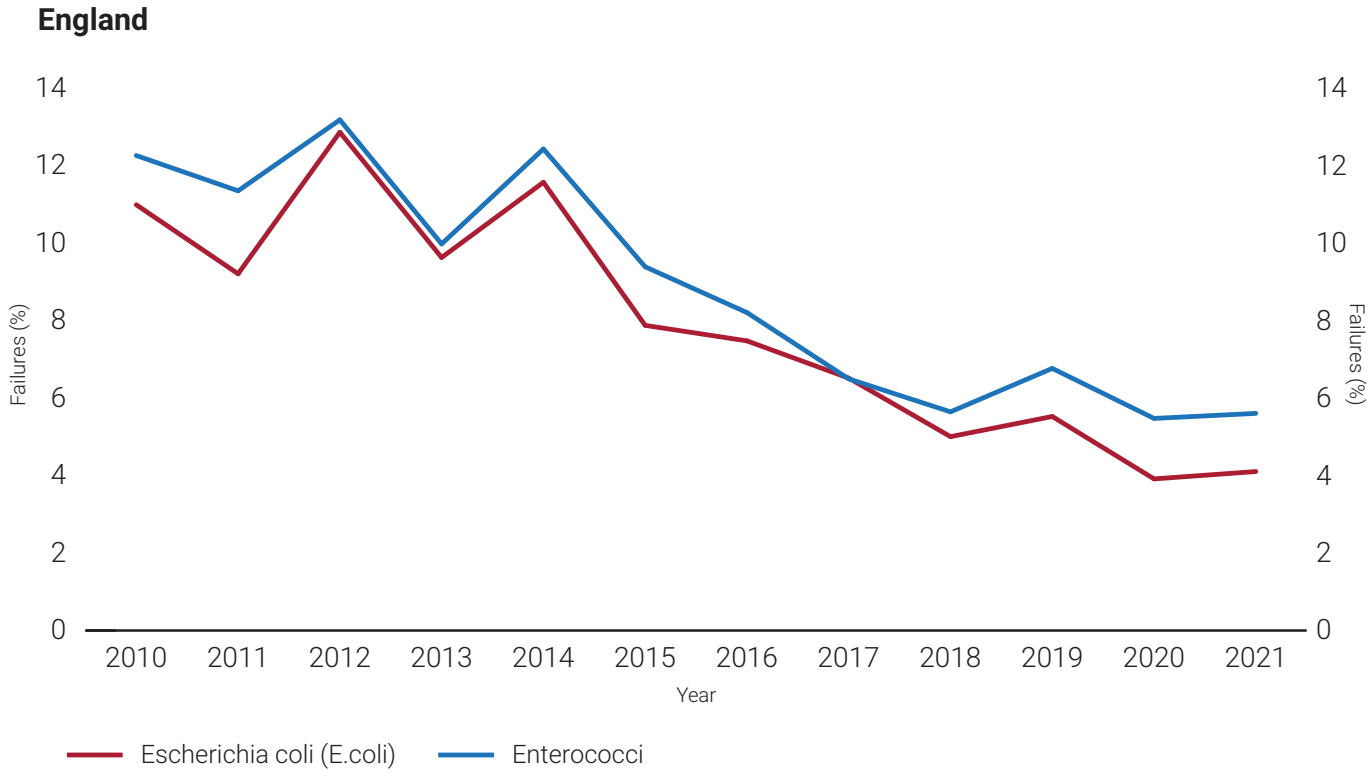


Figure 1.3 shows an overall improving trend in the number of supplies found to contain *E. coli* or Enterococci, this is with a backdrop of fluctuating sample numbers over the last three or four years and a similarly fluctuating number of failures which may be influenced by sample numbers and the sites from which they were taken. The number of consumers at private supplies where *E. coli* and enterococci was found was 12,163 and 17,802 respectively. These consumers were potentially exposed to a supply where faecal contamination was indicated in their drinking water and this number is not insignificant.

1.6 Improving water quality through risk assessment, risk management and enforcement

One of the key principles of the Regulations is to carry out a risk assessment to establish whether there is a potential risk of supplying water that would constitute a potential danger to human health. This is a whole system approach from source to tap for the lifetime of a private water supply and including its operation. The regulations have advanced from the compliance-based methodology of end point monitoring, to minimise the dependency on a sample which may be as infrequent as once in five years and serve little purpose as an assurance to a safe and secure supply. Risk assessments are a proactive approach to identify the risks, which are often visible to the trained and competent assessor, resulting in simple action to put a method of control in place. The importance of risk assessment will become more apparent as supplies are now reaching the

point where there are three years' worth of sample results which may mean the supply qualifies for a sample frequency reduction. With sampling frequencies down to the absolute minimum, risk assessment will be the primary mechanism for quality and sufficiency issues to be identified and mitigated.

Point of use sampling will play the part of monitoring when used as a measure of efficacy following a risk assessment, or more widely as a measure of general improvement or otherwise of an intervention strategy.

Each local authority must carry out or review a risk assessment of each private water supply system in its area at least every five years or earlier if it is considered that the supply presents a risk.

The Inspectorate has developed a set of risk assessment tools to help local authorities comply with their duties under regulation 6. These can be found on the Inspectorate's **risk assessment web page**. A Microsoft Team has been set up to facilitate training and videos are available through this group.

Local authorities report information on risk assessments and enforcement action to the Inspectorate in two ways. In the annual data return, local authorities report against each supply on their records, including a date when a risk assessment was carried and whether a notice was served. This covers the presence or absence of a risk assessment or notice. To meet the full requirements of the Regulations, local authorities should, in addition to this and throughout the year, submit summaries of risk assessment to the Inspectorate, plus copies of notices served. Each year the numbers in annual data returns do not match the number of items received, with gross under-submission of risk assessment summaries and notices.

Risk assessment and notices

Where any private supply of water intended for human consumption constitutes a potential danger to human health, a local authority must serve a regulatory notice on any or all persons involved with the supply as the local authority see relevant as an owner, occupier or anyone else who manages or controls all or part of the supply depending on the cause and the appropriate mitigation required. The key point is to protect public health and so timely action is essential.

To fulfil this duty the local authority must consider the risk assessment including all the relevant local circumstances, any advice from United Kingdom Health Security Agency, and site-specific local agreements and covenants or deeds which specify responsibilities for specific aspects of the supply or its management.

Across England, the number of private supplies that had been risk assessed within the previous five years covered 15.6% of all relevant private supplies. If local authorities do not pick up the pace of first-time risk assessments and risk assessment reviews, this picture will continue to deteriorate, leaving more consumers exposed to unknown levels of quality and sufficiency risks.

In 2021, where a sample was taken for *E. coli*, this indicator of faecal contamination was found in 293 supplies without a risk assessment or where a risk assessment was not carried out in the last five years. It is disappointing that in these cases, a sample result revealed the contamination because in these supplies, prior to the detection of *E. coli*, the consumer is at their most vulnerable because they are unsuspecting and cannot take action to protect their own health. The better practice approach is for a risk assessment to identify sources of contamination and pathways to the supply. This approach should identify all potential contaminants, and not rely on the results of a spot sample which cannot be guaranteed to detect all contaminants at the point a sample is taken. Most worrying is that where samples are taken in the absence of a risk assessment, the consumer continues to use the water for drinking and cooking while the samples are analysed.

Fulfilment of statutory duties

In this 12th year of reporting against this current regulatory framework, local authorities are not fully delivering their statutory duties which aim to protect public health.

Understanding the state of private supplies in England relies on the provision of information and data by local authorities. In turn, the analysis of this information allows national reporting to direct policy change in pursuit of improving the quality of private supplies. However, this has been impeded by late or absent returns to the Inspectorate of sample data, summaries of risk assessments and notices which have been served.

To remedy this issue and modernise the risk assessment tool provided to local authorities, the Inspectorate has commissioned a new online system which will replace the Excel risk assessment tools, and parts of the information submission requirements. A Microsoft Team has been established to roll out the new system and provide training during 2022. If you wish to be part of this Microsoft Team, please email **dwi.enquiries@defra.gov.uk**.

2. Data return findings

During 2021, the Inspectorate gathered data through the annual data return which is a statutory reporting requirement of local authorities.

2.1 The quality of the water supplied from private water supplies in England:

Under regulation 15 of the Regulations, local authorities must keep records of every private supply in its area and submit these to the Inspectorate by 31 January each year.

For the reporting year 2021, a submission was received from 279 local authorities.

In 2021, local authorities carried out 209,172 analyses of private water supplies samples. This is an increase of 24.4% on the previous year but this has not regained the ground made in 2019. Nevertheless, 2021 demonstrates the intent to increase sample numbers when compared to those prior to 2019. Figure 2.1 shows sample number taken since 2010, and the impact during 2020 attributable to the pandemic.

Figure 2.1

Number of tests from 2010 to 2021

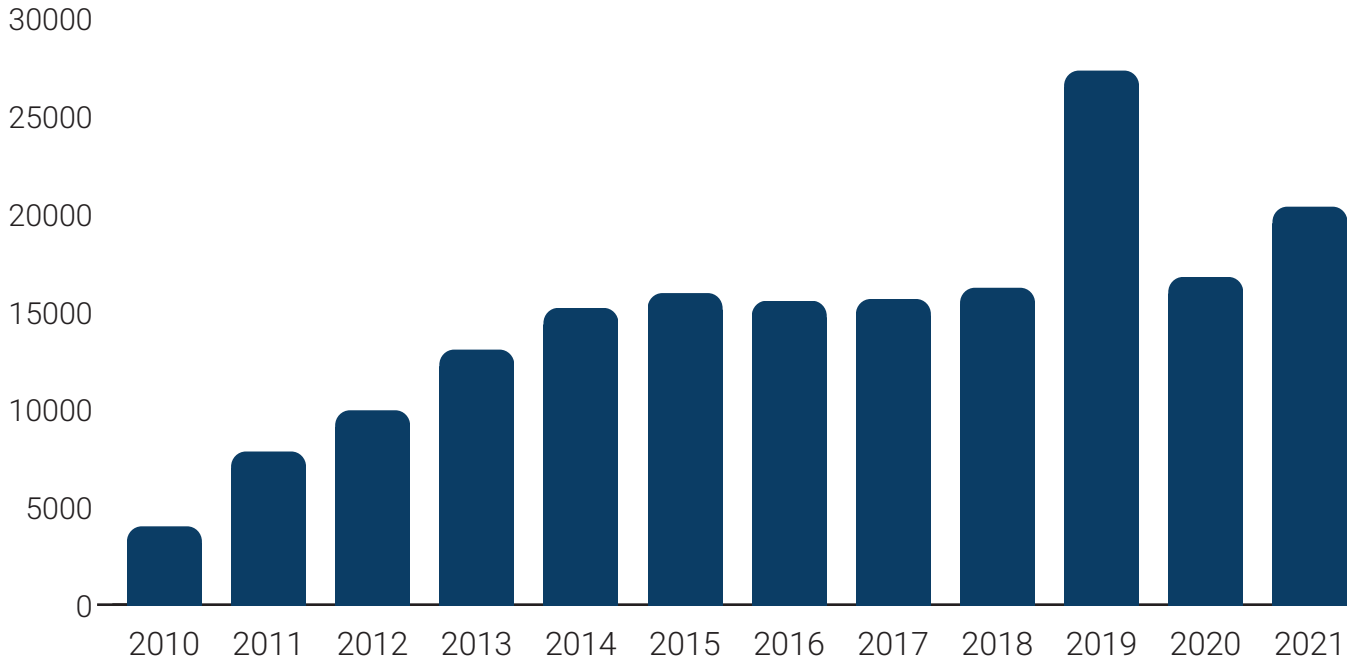


Table 1

Shows a summary of the number of samples failing for various microbiological and chemical parameters.

Microbiological parameters	
E. coli	4.1%
Coliform Bacteria	9.8%
Enterococci	5.6%
Clostridium perfringens	3.9%
Chemical Parameters	
Odour	23.2%
Taste	19.6%
Manganese	4.7%
Iron	5.3%
Aluminium	1.1%
Turbidity	1.0%
Colour	0.9%
Lead	2.8%
Nickel	2.6%
Nitrate	6.7%
Fluoride	1.0%
Pesticides	0.1%
Others	1.4%

Microbiological Failures

The detection of specific indicator micro-organisms means that a supply is contaminated. When *E. coli*, enterococci and to a lesser extent *Clostridium perfringens* are found, this suggests that the contamination may be faecal in origin. Faeces often carries micro-organisms including bacteria, viruses and parasites which are harmful to health and when a faecal indicator is found, this water should not be consumed.

Table 1 shows that during 2021, in England about 1 in 20 supplies may be unfit for consumption and pose a risk to health containing *E. coli*. Whilst coliforms are not always a direct indicator of faecal contamination, they still indicate that there is a route for contamination to enter the supply and that contamination is not removed by treatment. This was found in over 1 in 10 samples. Protection of supplies from contamination is critical to protecting public health. Should a supply be found to contain the presence of faecal matter it would be expected that the local authority

investigates. The local authority should serve an enforcement notice under regulation 18 to require the relevant person to take both short-term measures to protect health and longer-term improvements to the supply to make it safe to drink.

Other failures

Taste and odour failures could be caused by the quality of the source water or develop as water passes though the distribution system. How consumers describe the taste and odour can help identify the cause with descriptions such as 'earthy' or 'musty' pointing to possible algal problems in the source water and 'woody/pencil shavings' suggesting the presence of black alkathene pipework as a couple of examples. The percentage of tests failing the standards at 19.6% and 23.2% of taste and odour tests respectively, indicates that taste and odour issues in private water supplies are quite common.

Lead and Nickel were detected in 2.8% and 2.6% of tests respectively. Lead is a neurotoxin particularly affecting children and can cause health effects in adults including chronic kidney disease, raise blood pressure and cardiovascular disease. Where lead is detected above the standard, local authorities must serve a regulation 20 notice to secure actions to protect the health of the consumers. The most robust long-term solution is the removal of the lead pipework. Nickel is most commonly detected because of nickel plated domestic fittings such as taps. Sometimes the source is not as obvious and could be under-sink mixers and temperature regulators. Consumers should be advised to replace these fittings where failures of the standard occur.

Iron, manganese and aluminium can be seen to have failed in 5.3%, 4.7% and 1.1% of tests respectively. All these metals can be found naturally occurring in sources waters. Local authorities should should consult with UKHSA to determine whether the concentration of these metals pose an immediate danger to health, and if so, serve a regulation 20 notice. Should the presence of these metals not be deemed a potential danger to health, local authorities can still act under section 80 to compel the relevant persons to make the supply wholesome and acceptable.

Turbidity and colour are seen to have been found in 1.0% and 0.9% of tests respectively. Turbidity can reduce the effectiveness of disinfection so a detection of turbidity in excess of the standard should trigger an investigation to determine the cause, followed by the appropriate course of action under regulation 20 or section 80 of the Water Industry Act 1991 (the Act) to carry out improvement actions. Colour detections are usually caused by compounds which arise from the catchment of the source waters and can be removed by suitable treatment processes.

2.2 Risk assessments

In 2021, the percentage of private supplies which have an in-date risk assessment are:

- for private distribution systems 24.5%.
- Large, commercial and public use 24.9%.
- Small supplies and those as part of a domestic tenancy – 15.9%.
- Untenanted single supply dwellings are only risk assessed upon the owner's request and 12.29% have had an assessment.

In total, 12,758 supplies require a risk assessment, and only 2,675 (21.0%) have one that has not expired. For all supply types other than single supplies, local authorities have been required to complete risk assessments since 2010. It is concerning that, ten years after the introduction of this requirement, there is still a significant proportion without a risk assessment and a critical 7,435 supplies which have not had a risk assessment where users remain unsuspecting that their supply may contain faecal contamination.

In 2018, a change in the regulations in England brought about the requirement for local authorities to provide a summary of the results of risk assessments to the Secretary of State (in practice the Inspectorate), within 12 months of having carried out the assessment.

In 2021, 105 risk assessment summaries from 19 local authorities, were received by the Inspectorate. This is a 114% increase on the previous year, which is believed to be a recovery after risk assessments were impacted by the restrictions associated with the pandemic.

2.3 Enforcement

Local authorities are required to send notices served under the legislation to the Secretary of State (in practice the Inspectorate).

In 2021, the Inspectorate received 43 notices served under regulation 18 of the regulations, although the data return indicated that 285 had been served. 74 notices were served under section 80 of the Act, but only five of these were received.

It is not possible to report fully on notices when 86.6% have gone unreported. Nevertheless, a summary with the remaining information, as follows, has been provided.

Local authorities served 285 regulation 18 notices in 2021 where the water constituted a potential danger to human health. However, in 2021, there were around 4,694 supplies where samples identified faecal contamination. This indicates that action to protect the health of consumers occurred in less than 7% of the cases. The presence of contamination always requires action to protect users and, in the longer term, to improve private water supplies as a whole. Where there is a potential danger to human health, a local authority must serve a notice.

2.4 Reasons for serving notices

Most notices are historically served in response to a failure of a microbiological standard, with a very small minority for failures of other standards. This year was no different with 36 out of the 43 notices submitted were served for failures of microbiological standards. One was served in response to failures of the standard for nitrate. Two notices were served for lead and one each for iron and nitrate. Two notices were served on supplies that were deemed a 'risk to health' after completing a risk assessment. The ethos of the Regulations is one of proactive risk assessment to prevent failures and a risk to health from ever being realised. Local authorities still appear to be predominantly reacting to sample results, rather than proactively eliminating the problems that would result in a sample failure. The use of a proactive risk assessment, and if necessary, a notice in this context, is to protect users before an incident occurs so they are not unsuspecting, and they can be responsible for protecting their own health.

The five section 80 notices submitted to the Inspectorate were associated with microbiology, a pesticide, manganese and insufficiency.

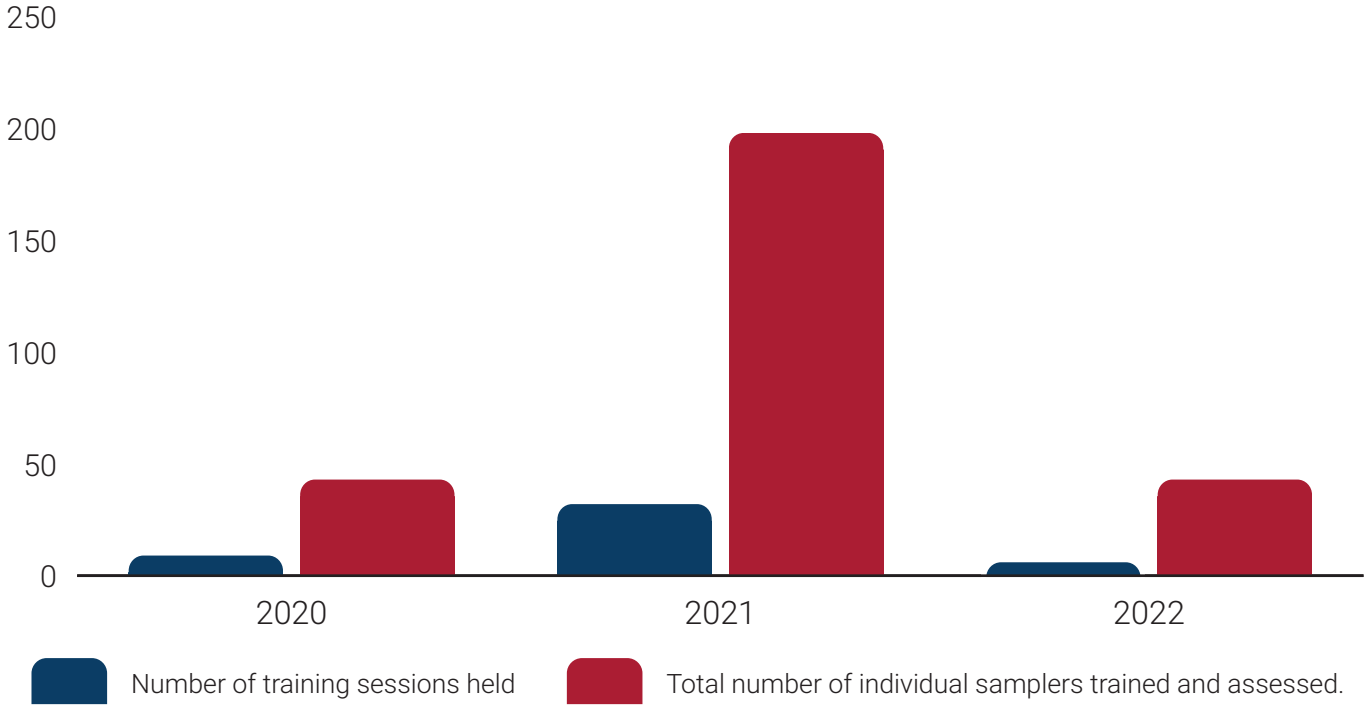
3. ISO/IEC 17024 certification

CATG are the designated body that train and assess individuals wishing to acquire certification to carry out sampling of private water supplies. The process is accredited by The United Kingdom Accreditation Service (UKAS) to an ISO/IEC 17024 standard. The Scheme is owned by the Inspectorate who maintain a sampling procedures manual forming the basis of this scheme.

After a very slow start to samplers gaining certification which was hampered by the pandemic in 2020, the numbers of training session held, and samplers gaining certification increased in 2021. Figure 3.1 below shows the gains made in 2021.

Figure 3.1

Scheme training sessions



What is of concern is that across 2020 and 2021, almost half of the samplers that were trained and assessed, did not submitted their sampling procedures manual or authorisation to sample, which is the final stage to receiving certification. The Inspectorate will explore this issue with local authorities.

Figure 3.1 shows that the pace for the first quarter of 2022 has slowed down compared with 2021. We would like to remind all local authorities that certification became a requirement on 11 July 2020, and therefore hope that this pace picks up through the rest of 2022, to complete coverage in all local authorities across England.

3.1 Scheme review

The Inspectorate started the first review of the Scheme in 2021, and a new Scheme Document and Scheme Sampling Manual will be published around the same time as this annual report. Feedback was sought from all major stakeholders include CATG, local authorities, UKAS, the Food Standards Agency (FSA), and water companies. This feedback was reviewed, and the two scheme documents were updated to adopt changes that would achieve improvements. One of the changes is for the review period of the Scheme to be extended to once every three years.

As part of the Scheme review, in 2021 and early 2022 inspectors attended two training and assessment sessions for prospective samplers run by CATG to satisfy themselves that the training and assessment of sampling to the methods of their manual was suitably extensive and accurate.

Delegates on these occasions were mainly from local authorities, but some were from other commercial organisations that take samples on behalf of local authorities. This formed part of the first review of both the Scheme and the sampling procedures manual since their inception.

Overall, inspectors considered that the training and assessment process was satisfactory with only one suggestion for improvement which was to include the demonstration by delegates that they had an adequate understanding of the collection of at least one type of chemistry sample and the correct sequence of sampling.

The inspectors formed the view that the sampling experience of delegates they met, was highly variable with some having taken samples for many years, while others were new-comers to private water supply regulation and had no previous experience.

In general, methods employed for the transportation and storage of samples were largely being driven by local practicality challenges. This often meant that representativeness of samples could not be confidently assured between point of collection and analysis.

The requirement for local authorities to maintain regulatory sampling standards via an accredited ISO/IEC 17024 scheme now ensures that sampling of private water supplies is consistent and to recognise good practice. It also ensures that samples are not at risk of being unrepresentative during collection, transit and storage. Compliance with the sampling standards by all local authorities is however yet to be completed on a national level and remains an ongoing process.

4. PFAS

All local authorities will have received a letter from the Environment Agency (EA) in November 2021 regarding environmental monitoring of per- and polyfluoroalkyl substances (PFAS) in groundwater. This routine surveillance monitoring has detected these substances at some private water supply locations at concentrations above the trigger values set out in the Inspectorate's guidance **Information Letter on PFAS**. The Inspectorate's guidance recommended that the chemicals PFOS (perfluorooctane sulfonate) and PFOA (perfluorooctanoic acid), that belong to the group PFAS substances, should not be present in drinking water above a concentration of 0.1 micrograms per litre (µg/l). **Further guidance** was published in October 2021, which applies this precautionary standard to all PFAS. While this guidance is aimed at water companies, we would like to draw local authorities' attention to expectations regarding communication between you, water companies and other stakeholders, plus the sharing of information and data, particularly for risk assessments.

For the latest information and guidance on PFAS, please regularly visit our website page **Risk Assessment tools and tips**.

5. Local authority website review

During 2020, the Inspectorate undertook a review of private water supply information on 333 local authorities' websites. The aim was to gain a better understanding of the variability and helpfulness of this information. The findings were published in CIR 2020. In summary, this information was greatly variable in quality, the way it was presented, and the ease at which it was located. This did not necessarily relate to the number of supplies in each respective local authority area, although information was generally more extensive in areas where private water supplies were more prevalent. Of the 333 websites reviewed however, 40 (12%) provided no information on private water supplies whatsoever, despite the known presence of supplies in these local authority areas.

It's the Inspectorate's view that supply owners and consumers should be well informed, so that they can keep their supply health and their water safe, and understand the framework of activities they must interact with, which stem from the legislation. Ready information also has a side benefit of reducing the numbers of enquires from those seeking it out. A second review was conducted in 2021 therefore, with the aim of gaining additional information on the accuracy of information on regulatory requirements.

5.1 Overall summary findings of 2020 and 2021 audits

- Local authorities do not always provide information on private water supplies on their websites, whether they have private water supplies in their area or not. Where it is made available it is very variable and inconsistent in its content between local authorities. In some cases the Regulations have been incorrected interpreted by the local authority and the information is not always in line with current legislation.
- Local authorities do not always publish their private water supply fees, or make it obvious that there are associated costs. Sometimes this information is located on a different part of on the council's website, which can be difficult to find. In some cases, charges for private water supplies activities are apparent but details not transparent, requiring the consumer to contact the council to establish what those costs are.
- Very few of the websites reflect or promote the requirement for risk-based regulation, emphasis largely being placed on sampling, often without any mention of the importance or

requirement to risk assess supplies (other than those to single untenanted dwellings) to proactively prevent and mitigate contamination risk.

- Some websites suggest that a local authority can exercise discretion over its actions whereas the Regulations make it mandatory.

The Inspectorate found two websites to be exemplary in content, quality and accuracy and the way in which the information is presented. The information is up to date and provides comprehensive and helpful advice to consumers in managing their supplies. The fees that the local authority charge for private water supplies' activities is transparent and easy to locate: These local authority websites are as follows:

- South Lakelands District Council: **Private water supplies (southlakeland.gov.uk)**
- Wiltshire Council: **Private water supplies – Wiltshire Council**

Both local authorities have large numbers of private supplies in their areas. The information provided is therefore in keeping with the degree of potential interest of consumers and other stakeholders in these areas.

For those local authorities with fewer supplies in their areas the following website is considered by the Inspectorate to provide an excellent benchmark:

Bath and Somerset Council: **Private Water Supplies | Bathnes**

2021 Review Details

Table 5.1

Website scoring regime.

Scoring	
1 = Poor	Content is sparse and uninformative
2 = Unsatisfactory	Content is minimal but largely accurate
3 = Satisfactory	Content is sufficient, but not always accurate
4 = Good	Content is substantial and informative, but not always accurate
5 = Exemplary	Content is extensive, informative, and generally accurate

Between eight and 10 local authority websites were selected for audit in each of the following regions in England: North, Central & East, West, South.

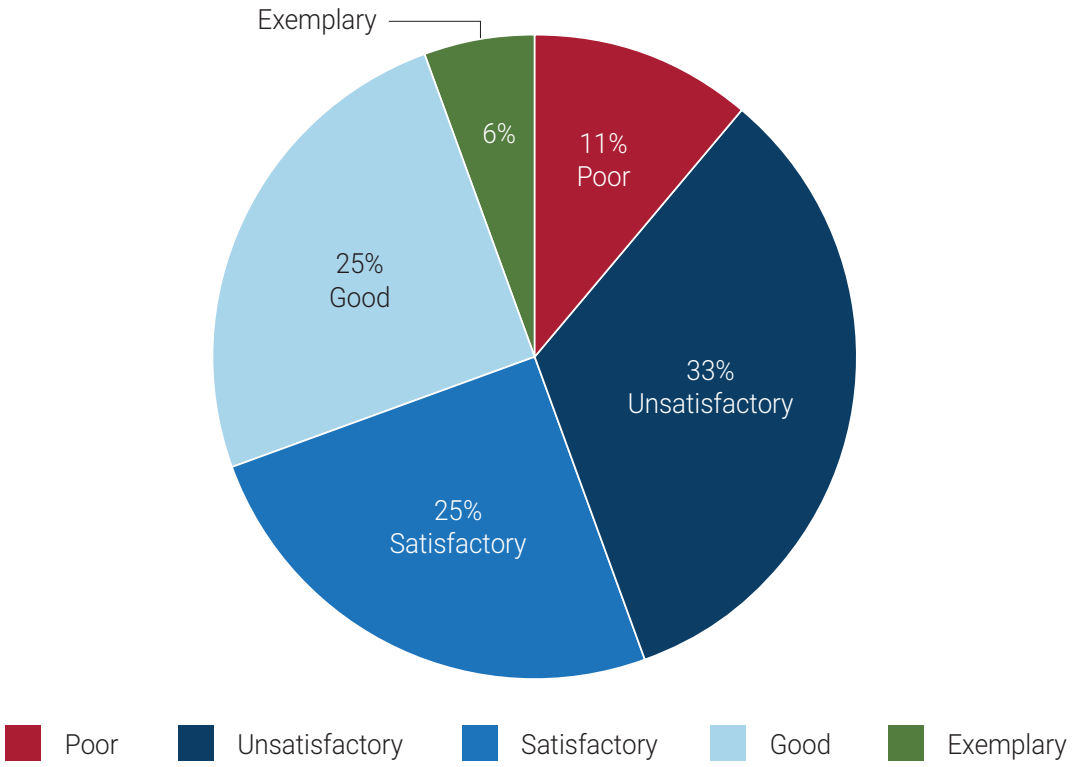
Table 5.2

Numbers of websites reviewed

	Number of websites reviewed
England	36 out of 352
Wales (all local authorities in Wales)	22 out of 22
Total	**58**

Figure 5.1

Proportions of website grades (Wales and England).



Main findings – England:

- Three of the 36 (8.3%) websites had no inaccuracies.
- The highest number of inaccuracies was five (Tameside Metropolitan BC).
- Seven of the 36 (19.4%) referenced out of date regulations or provided information relating to regulations that have since been revised or amended.
- Six out of 36 websites wrongly or poorly defined regulation 8 supplies (although categories of supplies were not always mentioned in the websites).

Table 5.3

Examples of inaccuracies (England and Wales):

Inaccuracy	Guidance
The LA is responsible for monitoring **every** supply.	Whilst the council is responsible for keeping records of every supply in its area, the Regulations do not make it mandatory for supplies to untenanted single dwellings to be monitored.
All supplies require a risk assessment and sampling.	This is not true of all supplies. Supplies to untenanted single dwellings do not require a mandatory risk assessment or monitoring
Regular testing of your water supply makes sure that the water is safe.	Testing does not make the water safe. It may verify that it is safe at a moment in time, but a satisfactory result is not necessarily conclusive evidence that a supply is always safe, or free of every potential contaminant.
We may carry out an investigation to identify the cause of the failure.	Regulation 16 (18 in Wales) requires that an investigation **must** be carried out.
Sampling is tailored according to the risk it presents.	This is true of regulation 8 supplies, but regulatory sampling requirements for regulation 9, 10 and 11 (Wales only) are determined by the supply type. Additional risk-based sampling may be applied.
We are encouraged to negotiate with the person responsible for the private supply to try to resolve a problem informally.	The regulations do not permit informal negotiation where the water is unwholesome or a potential danger to human health. The requirements are specified in regulation 16 (18 in Wales).
The Regulations set maximum charges (this relates to a local authority in England).	This has not been the case in England since 2018.
Regulations provide guidance.	Regulations and guidance are not one and the same. Guidance provides an interpretation of the legislation and the regulatory requirements that it sets out.
You can test [your private supply] yourself at a private laboratory.	Whilst this correct to some extent, the website does not qualify that regulatory monitoring must be accredited and be carried out by the local authority or their designated competent service provider.

Several local authorities stated that private water supplies "must" be registered with the local authority. The legislation does not explicitly require owners, consumers or any relevant person to register a private water supply. Failure of a person not to register a supply is not enforceable or an offense. The use of the word "must" in this context is therefore questionable. It is however a regulatory requirement for local authorities to make and keep records of all private water supplies in its area. For this reason, registration of supplies is helpful and should be encouraged.

If a local authority becomes aware of a private water supply that is not currently on its record, it may use enforcement powers to serve a section 85 notice to obtain the information it requires, and or a section 86 notice to gain entry for those purposes should it need to.

Local authority next steps

Local authorities are encouraged to review and update their websites in view of the findings of this review. It is suggested that the following key subjects are included on these pages as a minimum:

- A definition of a private water supply in the context of the regulatory scope. It should include a description of how private water supplies differ from a public supply, notably with reference to potential water quality risks.
- A supply should meet the quality standards that are prescribed in the regulations.
- A supply must be safe to consume. Where it is not, the local authority is duty bound to serve a notice to require the necessary improvements.
- The local authority's responsibly as regulator to conduct duties in respect of the above.
- A description of private water supply categories and how these relate to local authority activities and associated charges.
- The provision of a transparent charging schedule.
- Advice and guidance on management and maintenance (including contingency arrangements for planned and unplanned supply outages).

Where space is limited or extensive information not considered a priority in a particular area, a local authority could provide a link to the Inspectorate's private water supplies website instead, particularly if no information is provided currently.

Annexes

A – Research and special projects

Private water supplies online tool "Neptune"

In 2012 the Inspectorate developed an Excel-based risk assessment to assist local authorities with their duties under regulation 6 (risk assessments) of the Regulations. This has since been modified, and other versions have been developed by the Inspectorate in response to feedback from local authorities. These changes simplified the risk assessment process for smaller and specific types of supplies, such as regulation 8 supplies. During 2021 a new web-based tool which was designed to replace the Excel tools, was trialled by Welsh local authorities. The tool facilitates the recording of the outcomes of risk assessments and the management of mitigation measure delivery. For sample data, it provides a way for individual sample results to be entered manually, as well as a bulk upload facility where local authorities upload their own data return via a secure portal. This facility was employed for 2021 data return. Despite experiencing many technical challenges with the new bulk upload, the data return covering 2021 was well received with only four less submissions than the previous year. We would like to thank everyone for their patience and support during that time.

To further improve our communication methods with local authorities, we have established a Microsoft Team (MST) for private water supplies. All local authority personnel who work with private supplies are invited to join. It is an open group, therefore contact details are visible to all. If you would like to join the MST, please email **dwi.enquiries@defra.gov.uk**.

We intend to use this MST to deliver training on the new tool in preparation for its roll-out to all local authorities in the future.

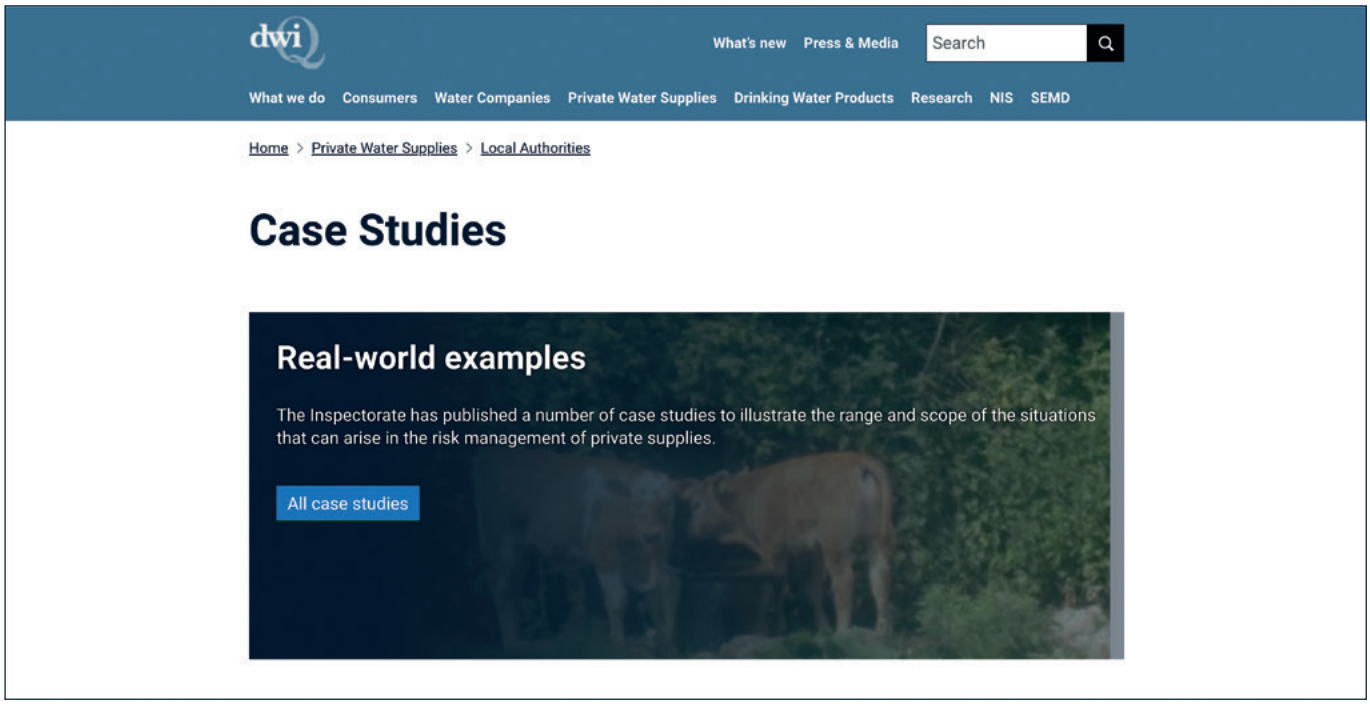
Tests calculator

The annual data return for 2021 exposed several systematic issues with the data. These included for example, volumes being recorded with the wrong units resulting in the wrong order of magnitude (usually far too big) and eastings and northings incorrectly recorded. Of most concern to the Inspectorate was it appeared there was a lack of understanding of the requirements for sampling parameters, particularly which parameters and at what frequency per year. To assist local authorities, the Inspectorate has produced a 'tests calculator' which can be found on the **website**. To use the calculator, users need to know the supply type, for example a regulation 9 supply, and the supply size in cubic metres. The calculator will then work out which parameters must be tested and at what frequency. There is an option to add any other parameter that may need to be tested because of the outcomes of the supply risk assessment. Combined, this will provide users with the expected number of tests required per year. It is then down to local authorities to determine how to schedule these into a sensible number of supply visits per year. The Inspectorate hopes that this tool with prove to be useful, and any feedback would be gratefully received.

To compliment the calculator, we also produced **guidance** on 'group A and group B' parameters which explains the concept and the difference between the two groups. This new guidance will explain the outputs of the tests calculator.

B – Case Studies

In reaction to feedback from local authorities on CIR 2020, we will now be publishing case studies throughout the year on our website **Case studies**. We have also provided a new search facility on the case studies page, so that all the case studies are searchable using key words.



C – Guidance

We have provided a second new search facility which searches the 'information notes' that make up the formal guidance to the Regulations. Please consult this guidance if you need clarification on any of the requirements of the Regulations. If you cannot find what you need, then please contact us at **dwi.enquiries@defra.gov.uk**.

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