climateXchange

Scotland's centre of expertise connecting climate change research and policy

Private Water Supplies in a changing climate: Insights from 2018

Chris Holdsworth, University of Glasgow, CXC Intern

April 2019

Executive summary

This report assesses the impact of the 2018 summer heatwave on private water supplies (PWS) in Scotland using stakeholder accounts and data. The following research questions were considered:

i) Where and how did the heatwave impact PWS?

ii) Why were these areas impacted?

iii) What lessons can be learned to improve supply resilience in a changing climate?

Key findings

- Large areas of Scotland experienced significant water scarcity between July and September 2018. Northern and eastern areas were worst affected and over 500 PWS were reported to have ran dry nationwide.
- 165 of the reported PWS that ran dry were located in Aberdeenshire. This region was particularly impacted because of a high number of shallow, surface-based Type B (individual domestic dwelling) supplies. These supplies have a small catchment area and limited ability to store water, thus making them less resilient to prolonged periods of water scarcity.
- Given the extent and longevity of the water scarcity The Scottish Government requested that Scottish Water provide assistance to local authorities and PWS experiencing issues under provisions accounted for in Section 76 of the Water (Scotland) Act 1980.
- This response was generally effective and welcomed by those reliant on private water supplies that had failed or experienced problems.
- The Scottish Government paid for the assistance provided by Scottish Water at a total cost of approximately £500,000. The provisions also placed additional pressures on Scottish Water and Local authorities, using over 3500 hours of staff time in Aberdeenshire.
- To reduce the pressures placed upon Scottish Water and Local authorities, and the expenditure of public funds policy developments regarding PWS should aim to reduce the numbers of existing and new PWS. This could be achieved through means such as improving assistance when pursuing a public mains water supply connection and encouraging new building developments to connect to the public mains supply rather than be reliant on a PWS.

Content

1 Introduction

1.1 Private Water Supplies (PWS)

Private Water Supplies (PWS) in Scotland are drinking water supplies that are not connected to the public mains water supply and are therefore not the responsibility of Scottish Water. In 2017 there was 22,269 registered PWS in Scotland (see Fig.1), meaning approximately 3.6% of the resident population in Scotland rely on PWS for their drinking water needs. This figure does not account for the transient population such as tourists that rely on PWS while in Scotland. PWS are clocal authoritiessified into two groups – Type A and Type B. Type A account for 2,494 of registered PWS and provide for at least 50 people, deliver at least 10m^3 of water per day, or are used for commercial or public activities such as hotels and community centers. The remaining 19,775 registered PWS are Type B supplies which provide for small domestic purposes such as individual households (DWQR, 2017).

There are two main sources of PWS – surface and groundwater. Surface supplies utilise sources such as rainwater, field drains, burns, rivers, and lochs, whereas groundwater supplies use boreholes, wells and springs as a source. PWS owners are responsible for the quality, quantity and maintenance of a PWS and Local authorities are responsible for the enforcement of PWS regulation. Full details of PWS regulation, relevant legislation and PWS distribution can be found in Appendix II.

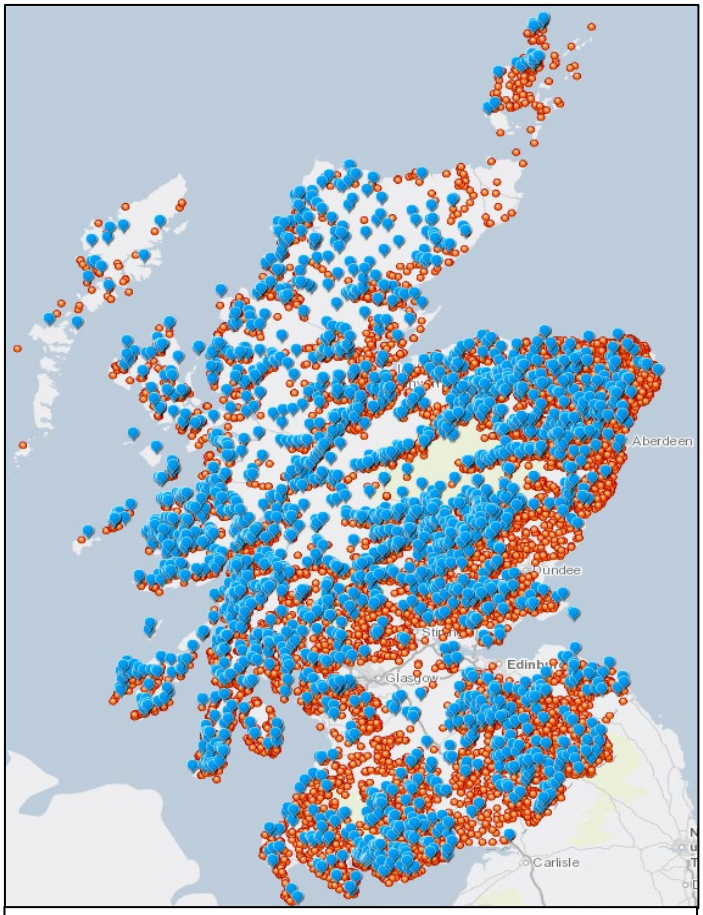

Figure 1: Distribution of Private Water Supplies across Scotland. Blue pins indicate Type A supplies, orange dots indicate Type B supplies (Source: DWQR)

1.2 PWS and climate change

Summer 2018 was the joint hottest on record in the UK. Following further analysis of this in December 2018 the Met Office concluded that:

"Human-induced climate change has made the 2018 record-breaking UK summer temperatures about 30 times more likely than it would be naturally."

The UK Climate Projections 2018 (UKCP18) also project an increase in the frequency & intensity of extreme weather events and for summers to become drier & hotter in the coming decades. Projections of particular concern for PWS are:

- Hotter summers are expected to become more common – In the recent past (1981 – 2000) the chance of seeing a summer as hot as 2018 was low (<10%). With future warming, hot summers by mid-century could become even more common (~50%).
- By the end of the 21st century all areas of the UK are projected to be warmer, more so in summer than in winter.

Given that weather conditions similar to summer 2018 are projected to become more frequent and severe

with climate change, it is useful to assess the impacts upon PWS and consider what lessons can be learned.

1.3 Report purpose and methodology

Recent work presented by the DWQR and Citizens Advice Scotland at Scotland's World Water Day event on March 22nd, 2019 highlighted the need for further research into the availability of advice, information and finance for PWS owners. Similarly, Scotland's Centre of Expertise on Water (CREW) currently has an active project[1] investigating if PWS are inhibiting the rural economy or impacting population distributions CREW states that:

"A key policy priority for Scottish Government is how to make these supplies sustainable and of good quality and quantity."

This report documents some of the challenges faced by PWS in 2018 through accounts gathered from 2 Local authorities, Scottish Water and Scottish Environment Protection Agency (SEPA). The report then evaluates these accounts and common trends within them to assess the potential future challenges for PWS in a changing climate. This work is timely given the release of Scotland's Climate Change Adaptation Programme (2019-2024) this year and the new Drinking Water Directive currently in the final stages of negotiation by the European Union. The report presents an interpretive analysis of verbal discussions and written responses provided by Local authorities, Scottish Water and SEPA between January and April 2019. Evidence is presented as descriptive findings, and quotes are used to reflect participant opinions. Where possible the report suggests where identified issues can be addressed within current regulatory structure.

The information presented in this report was acquired from a variety of sources. An initial meeting with Scottish Government and DWQR was held in January 2019 the main research goals were established. Information was then acquired via meetings, phone interviews and written answers to questions from Local authorities, Scottish Water and SEPA between January and March 2019. Aberdeenshire Council and Argyll & Bute Council were selected as case study Local authorities because of their geography and available contacts. Information gathered here was then combined with DWQR literature, Met Office weather data and UKCP18 data to assess the trends in stakeholder experience with projected future challenges with climate change.

[1] https://www.crew.ac.uk/project/pws-rural-economy

2 Impact of the 2018 heatwave on PWS

2.1 Conditions in 2018

The significance of the prolonged period of hot, dry weather throughout summer 2018 was increased because of the relatively dry winter and spring that preceded it. Figure 2 shows the extent of this across the UK, with winter, spring and summer all receiving well below the 1981-2010 average rainfall amount. Northern areas of Scotland were particularly dry, areas that subsequently were some of the worst

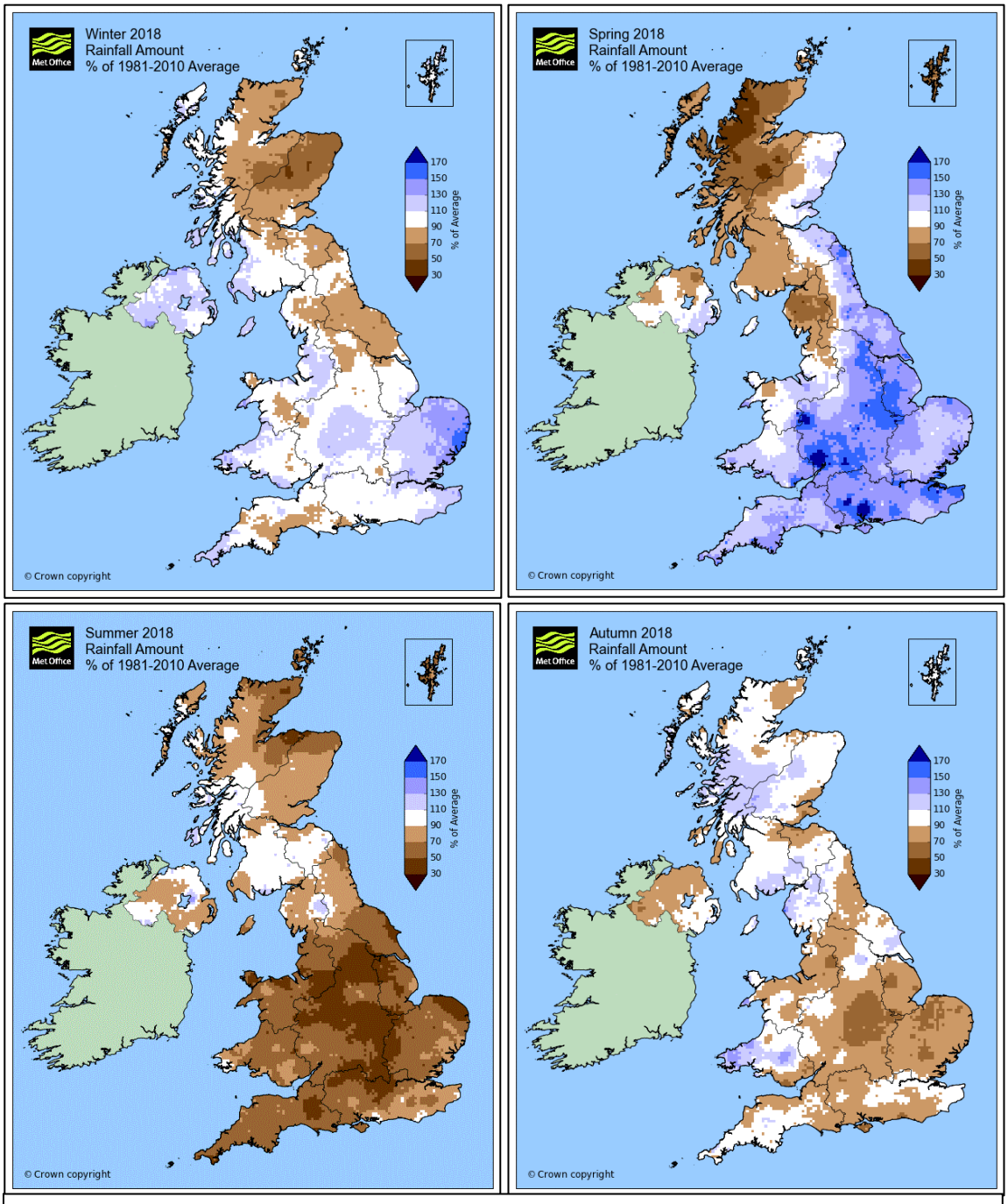

Figure 2: Seasonal rainfall throughout 2018 vs. 1981-2010 average (Source: Met Office)

impacted by significant water scarcity and problems with PWS. The low precipitation levels impacted surface water bodies in particular. The River Spey in the north east of Scotland was recorded at very low flow conditions for the longest continuous period since records began in 1952 (SEPA, 2018).

2.2 How were PWS impacted?

The prolonged low rainfall levels across Scotland, particularly in the north and the east of the country resulted in significant water scarcity throughout the summer months of 2018. Figure 3 shows the Scottish Environmental Protection Agency's (SEPA) Water Scarcity Situation Report from the 26th July 2018. The extent and severity of these conditions continued throughout the majority of August and into September. These conditions left those reliant on a surface sourced PWS particularly vulnerable to shortages because surface water sources do not have the capability to store water like deeper groundwater-based sources do. Consequently, during prolonged periods of low rainfall these sources can and did run dry. Nationwide over 500 PWS were reported to have ran dry in 2018. The true number of impacted supplies is likely higher as not all PWS owners will have requested assistance when their supply ran dry – they may have had other means of fulfilling their water demands (DWQR, 2019).

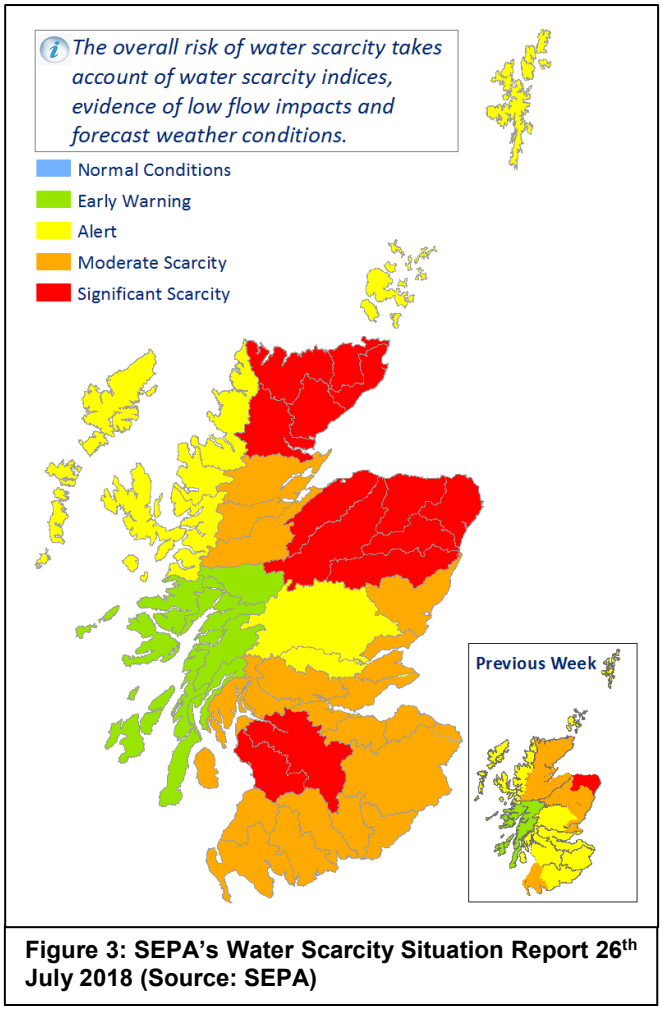

Figure 3: SEPA's Water Scarcity Situation Report 26th July 2018 (Source: SEPA)

One of the most severely impacted areas was Aberdeenshire, where 13% of the population rely on PWS. Aberdeenshire also has the largest number of Type B supplies of any region in Scotland. 165 supplies (around 350 properties) requested assistance due to PWS shortage or running dry. The majority of these supplies were shallow or surface-based, sourced from field drains and serving single or small clusters of properties (and therefore Type B supplies). There were no major geographical clusters of supplies that requested assistance within Aberdeenshire (see Fig.4). The first request for assistance was 10th July 2018 and as of May 2019 a few properties were still receiving assistance. A further request for an Intermediate Bulk Container (IBC) for water storage was submitted to Aberdeenshire Council on May 9th, 2019. The impact upon Argyll & Bute LA in the west of the country followed a similar chronological trend, but only a small number of individual properties were affected. Here, 32.7% of the population rely on PWS and the region has the second largest number of Type A and Type B supplies in Scotland.

2.1 Why were these areas impacted?

2.1.1 Supply and source type

As previously mentioned, many of the PWS that hit problems in 2018 were surface or shallow sourced. This type of source has a small catchment area, both at the surface and at depth, and therefore does not have the natural capability to store water reserves within it. As such these supplies are more sensitive to changes in rainfall conditions and more vulnerable to periods of low rainfall than deeper,

aquifer/groundwater-based sources that provide a more constant, reliable supply. This was not a unique characteristic of 2018, it has always been a vulnerability of these types of supplies, but conditions in 2018 exposed this risk on a scale not seen in recent years. Climate change projections suggest that conditions similar to that of 2018 will become more frequent and severe in the years and decades to come, thus increasingly the likelihood of a similar problems occurring again. Aberdeenshire council highlighted that various factors could be influencing the resilience of supplies found in the region.

Wells built by hand and during wet periods are particularly vulnerable to water scarcity due to the poorer quality of construction and shallower depth. This may go some way to explaining why there were no coherent clusters of particular problem areas in Aberdeenshire. It also highlights that outdated technology and capacity considerations is a factor in the resilience of a PWS, as well as the absolute quantity of a PWS source.

2.1.2 Eastern rain shadow

The north and east of Scotland received some of the lowest levels of rainfall during 2018 of the entire UK. This combined with high numbers of Type B surface/shallow sourced PWS left the area particularly prone to PWS running dry. Relatively low levels of rainfall compared to the rest of the UK is not unusual for the northeastern region of Scotland because much of the area is located in a rain shadow. This is because west/southwesterly winds dominate the weather in the UK and consequently the majority of rainfall is initially received in the west of the country. When weather systems reach landfall, they also interact with high mountainous areas such as the western Highlands, meaning that by the time they reach the east of the country the majority of rainfall has fallen. This produces the lower levels of rainfall seen on average in the east of the country (see Fig. 4) and such is the extent of this in Scotland that Aberdeen receives around one-third of the rainfall of Fort William and Skye.

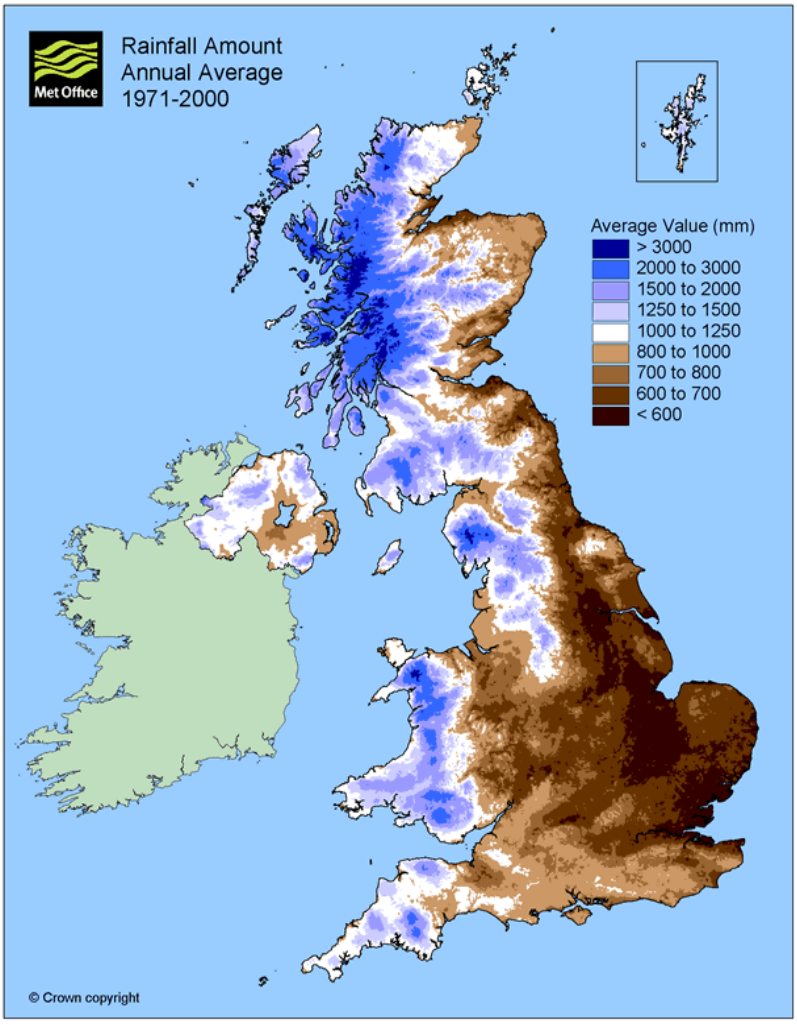

Figure 4: Average annual rainfall in the UK from 1971-2000 highlighting the eastern rain shadow [areas in brown] (Source: Met Office)

3 National and local response

In response to the prolonged period of significant water scarcity The Scottish Government requested that Scottish Water provide assistance to Local authorities and PWS experiencing issues under provisions accounted for in Section 76 of the Water (Scotland) Act 1980. The DWQR sent a letter to all Local authorities in July 2018 outlining the support available to PWS owners who were experiencing difficulties

(see Appendix III).

The significance of these provisions was that The Scottish Government paid for all assistance provided by Scottish Water and Local authorities. Previous to this letter these costs would be billed to the PWS owner. The letter also detailed how Local authorities needed to prioritise the requests for assistance from individual users of PWS based on the numbers and vulnerabilities of the people affected.

Both Aberdeenshire and Argyll & Bute Local authorities put in place procedures to respond to requests as outlined by a DWQR guidance document. In Aberdeenshire IBCs were distributed to certain points of the region and bottled water collection points were established at Banff, Strichen, Ellon, Stonehaven and Banchory. Inverurie was established as the main depot for bottled water deliveries and the storage/distribution of IBCs, and an additional 10,000L storage tank was put in place at the Cluny Estate. In Argyll & Bute pallets of bottled water were stored at the regions 4 main offices. Empty Bowsers were also supplied by Scottish Water but were not used given transport limitations and the individual basis of requests for assistance.

In both regions it was requested that PWS users collect the water provisions, unless said qualified as a vulnerable group in which case the water was delivered to the user. Aberdeenshire Council estimate that in their region approximately 225,000 bottles of water were distributed between July and November 2018 and over 3500 hours of staff time was used excluding finance and communication requirements.

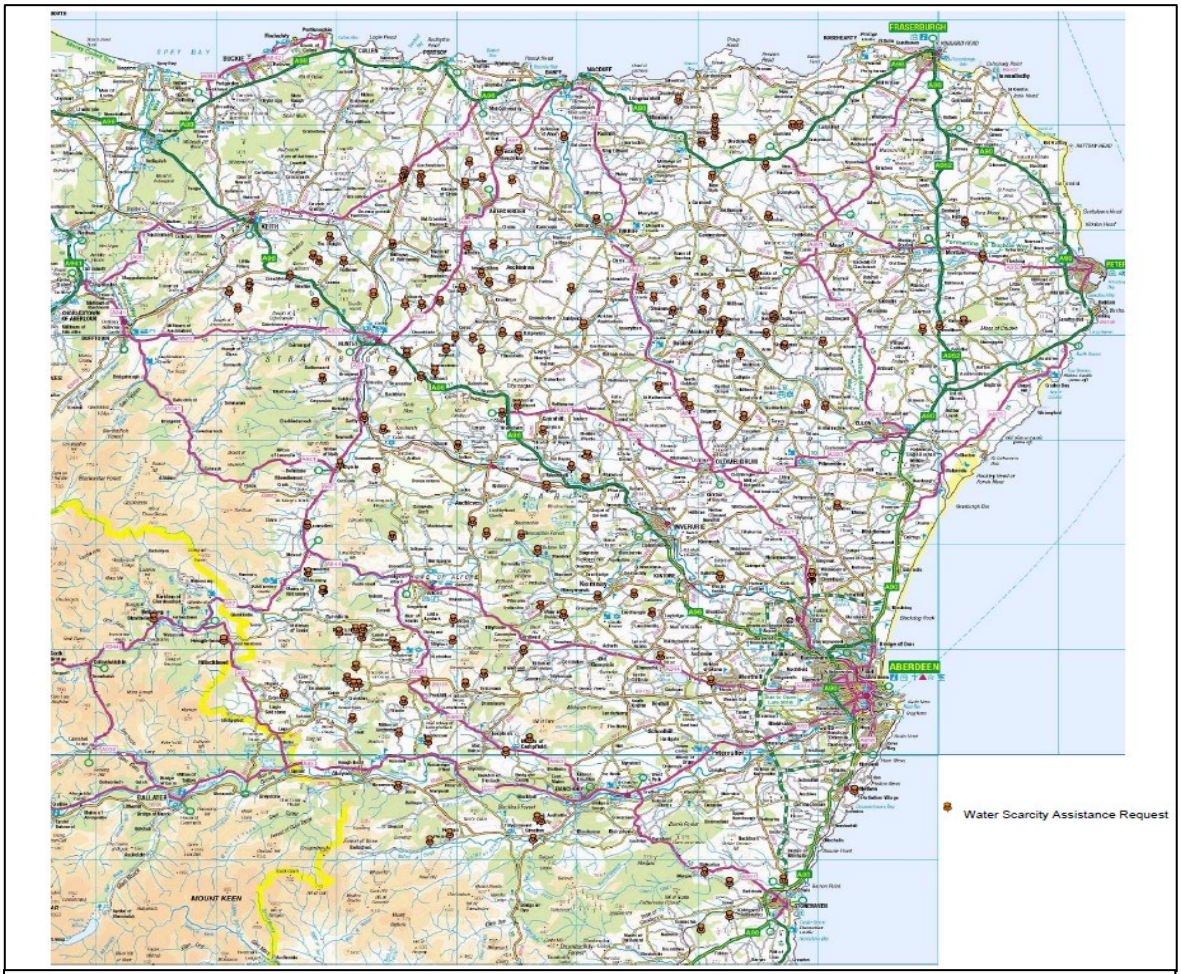

Figure 5: A map showing the spatial distribution of PWS that requested assistant in 2018 in the region (Source: Aberdeenshire Council)

4 Lessons learned

Climate change projections published in the UKCP18 indicate that extreme weather events such as the 2018 summer heatwave are to become more common and severe. Given this it is important to consider any lessons that can be learned from the events of 2018 for responding to similar events in the future and potential areas of focus for policy developments regarding the matter.

4.1 Response to future events

The response and actions taken by The Scottish Government in relation to Section 76 of the Water (Scotland) Act 1980 were appropriate and sensible given the unprecedented circumstances in 2018. The subsequent support given by Scottish Water and Local authorities to PWS users was generally welcomed and successfully met the needs of those reliant on PWS that had failed or experienced problems. Although the response was correct and adequate, it did place additional pressures on Scottish Water at a time when its resources and capabilities were already stretched given the conditions and its role as the public mains supplier. Similarly, the response required the input of considerable resource and staff time at the LA level, over 3500 hours in Aberdeenshire, and the DWQR estimate that total bill of all the assistance provided in 2018 cost The Scottish Government approximately £500,000. Consequently, should a similar situation occur again the actions taken in 2018 would be an effective response to assisting PWS that are experiencing issues. However, similar pressures would be placed upon Scottish Water and Local authorities, and more public finances would be required to fund the assistance. Given this policy developments in this area should aim to reduce the possibility of a similar extent of issues with PWS across the country. This could be achieved by considering the following:

4.1.1 PWS numbers

The most effective way of reducing the likelihood of extensive problems with PWS is to reduce the numbers of PWS by connecting those currently reliant on a PWS to the public mains supply. This is not always practical or possible for a variety of reasons such as a lack of information for pursing this option, distance from public mains infrastructure, issues with water pressure, issues of contamination from livestock use and PWS users not permanently disconnecting their PWS. The geography of Scotland's population also means it is not logistically or financially realistic that all PWS should be connected to the public mains supply. However, it is the most effective method of alleviating the pressures places upon Scottish Water and Local authorities in 2018 and is also the most favoured by Scottish Water, Local authorities and SEPA alike. Information on how to do so is available on Scottish Water's website[2], as is information about the Reasonable Cost Contribution. This scheme is provisioned for in the Water Industry (Scotland) Act 2002 and details how Scottish Water contributes towards the costs of a mains connection. As of February 2018, the maximum contribution available was listed as £1604.60 per household. The DWQR report that there is work underway to accommodate community connections, but that presently this figure does not provide a substantial subsidy to the overall costs of a mains connection, particularly for rural properties that are not very close to existing infrastructure. Any additional costs associated with a mains connection or any other means of improving PWS resilience is the responsibility of property owner in question. This expense is a particular barrier for Type B PWS owners given the individual financial burden this presents.

The Scottish Government currently offers an £800 grant for PWS to use to improve supply quality (e.g. installing UV treatment system). Both Local authorities who participated in this study reported a high uptake of this grant system. Work currently being taken forward by the DWQR is assessing the

[2] https://www.scottishwater.co.uk/en/Business-and-Developers/Connecting-to-Our-Network/Payments

possibilities for allowing the use of this financial assistance or a similar scheme to further subsidise the associated costs of pursuing a public mains water supply connection. The DWQR report that there are several complexities with the grant scheme in its current form, many of which are related to its legislative format.

4.1.2 New PWS

As well as reducing the numbers of existing PWS, measures to reduce the number of new PWS coming online will also reduce the likelihood of a repeat of the pressures places upon Scottish Water and Local authorities in 2018. The Local authorities involved in this report raised concerns regarding the planning process for water supplies of new building/property developments. Currently there is no prerequisite or requirement to supply information about the quality or quantity of a proposed new PWS in the building or planning process. Both Local authorities argued that given PWS are more vulnerable to periods of water scarcity than the public mains supply, the default position regarding the water supply of a new development should be that it is connected to the public mains unless there is a justifiable reason not to. This was reflected by this response from Argyll & Bute Council:

"Ideally the 'default' position should be that any application must connect to the mains unless they can provide a reason not too (e.g. not in the area reasonably close for connection, Scottish water unable to connect, capacity issues, etc.). If they are going to have a PWS then there should be a requirement to have this examined and confirmed as adequate regarding quality and quantity prior to occupation – in a similar way as requiring a building warrant."

This 'water warrant'-type suggestion was also supported by participants from Aberdeenshire council.

4.2 Future areas of risk

The frequency of problems with shallow/surface PWS in the northeast of the country highlighted the areas particular vulnerability to water scarcity to problems. As of 24th May 2019, the majority of Scotland is at 'Alert' Risk of Water Scarcity due to poor winter recharge of groundwater and loch-based water reserves (see Fig. 6). Western parts of Scotland are experiencing 'Moderate Scarcity' because of very low rainfall levels over recent weeks and months. As shown previously rainfall levels for the past 12-18 months have been lower than average and the longevity of these conditions means that there is an increased possibility PWS running dry again later in 2019. This scenario highlights the additional challenges that prolonged periods of dry weather present, particularly to groundwater levels, on top of isolated week-to-month long dry and/or hot periods. Rainfall patterns and climate change projections suggest that these scenarios are likely to become a more frequent and severe in Scotland. Northeastern areas particularly vulnerable given its location in a rain shadow and the high concentration of shallow/surface sourced type B PWS.

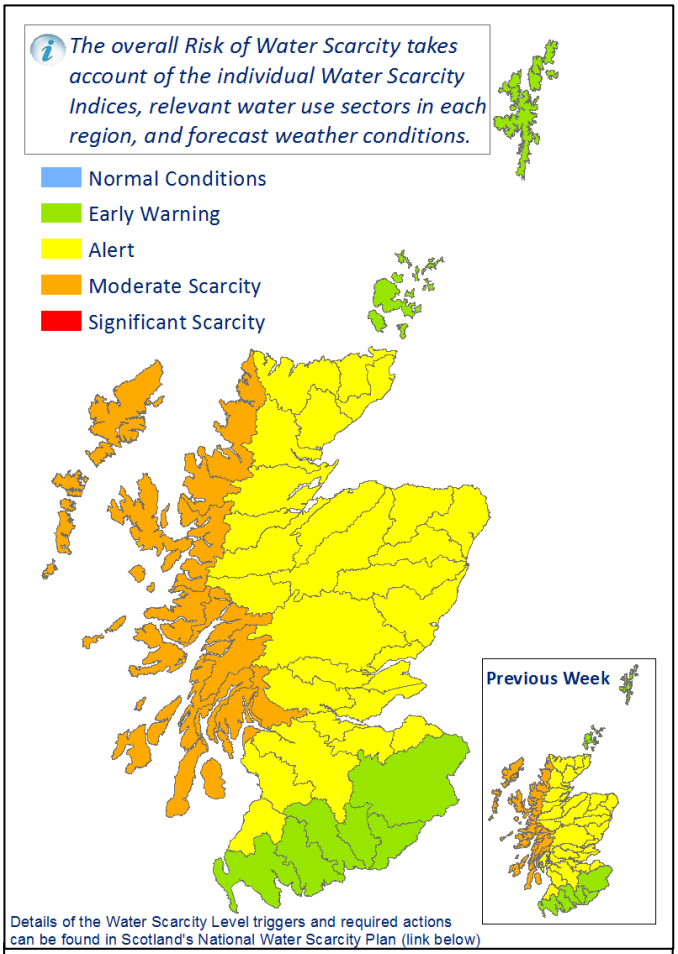

Figure 6: SEPA's Water Scarcity Situation Report 24th May 2019 (Source: SEPA)

4.3 Aberdeenshire Council action

In response to the events of 2018 and the continued level of water scarcity in 2019 Aberdeenshire Council's Infrastructure Services Committee (ISC) agreed on March 14th, 2019 to write to Minister for Environment, Climate Change and Land Reform, Roseanna Cunningham. In the letter[3] councillors want to emphasise that the events of 2018 are not expected to be a one-off problem because climate change forecasts suggest Aberdeenshire will continue to experience drier weather, more frequently. They also want to outline that weather forecast predictions for the next three months (March – May 2019) for the UK are normal to below normal rainfall and if there is no significant rainfall in coming months the region will likely face similar issues again. The ISC chair, Peter Argyle, will write to the Minister seeking assurances, including that the matter be given due consideration and that steps will be taken to address the Council's concerns. These include the need to improve advice and guidance to the public about water usage, maintenance of their supplies and improving the infrastructure. The committee also wants to raise the prospect of the mains network being extended into rural areas, as well as making it easier for property owners to access the public supply and allowing the current grant scheme to be used towards mains connection.

5 Conclusions

The impact of the 2018 summer heatwave on PWS in Scotland and the lessons that can be learned from it can be summarised as follows:

- Large areas of Scotland experienced significant water scarcity between July and September 2018. Northern and eastern areas were worst affected, with over 500 PWS were reported to have ran dry nationwide, 165 of which were located in Aberdeenshire.
- This region was particularly impacted because of a high number of shallow, surface-based Type B (individual domestic dwelling) supplies. These supplies are particularly vulnerable to periods of water scarcity because they have a small catchment area and limited ability to store water.
- Given the extent and longevity of the water scarcity The Scottish Government requested that Scottish Water provide assistance to Local authorities and PWS experiencing issues under provisions accounted for in Section 76 of the Water (Scotland) Act 1980.
- This response was generally effective and welcomed by those reliant on PWS that had failed or experienced problems.
- The Scottish Government paid for the assistance provided by Scottish Water at a total cost of approximately £500,000. The provisions also placed additional pressures on Scottish Water and Local authorities, using over 3500 hours of staff time in Aberdeenshire.
- To reduce the pressures placed upon Scottish Water and Local authorities, and the expenditure of public funds policy developments regarding PWS should aim to reduce the numbers of existing and new PWS. This could be achieved through means such as improving assistance when pursuing a public mains water supply connection and encouraging new building developments to connect to the public mains supply rather than be reliant on a PWS.

[3] https://online.aberdeenshire.gov.uk/apps/news/release.aspx?newsid=5268

6 References

CREW. 2019. *Private water supplies: Are they inhibiting growth and flexibility of the rural economy, or impacting population distribution?* [Online]. Scotland's Centre of Expertise for Water (CREW). Available: https://www.crew.ac.uk/project/pws-rural-economy [Accessed 25th April 2019]

DWQR. 2019. *Drinking Water Quality in Scotland 2017 Private Water Supplies* [Online]. Drinking Water Quality Regulator. Available: http://dwqr.scot/media/42373/drinking-water-legislation-r-greenhill.pdf [Accessed: 25/04/2019]

DWQR. 2017. *Drinking Water Quality in Scotland 2017 Private Water Supplies* [Online]. Drinking Water Quality Regulator. Available: http://dwqr.scot/media/39966/dwqr-pws-annual-report-2017-compiled-report-final-24-september-2018.pdf [Accessed: 25/04/2019]

SEPA. 2018. *Water Scarcity Situation Report 07th September 2018* [Online]. Scottish Environment Protection Agency (SEPA). Available: https://www.sepa.org.uk/media/375524/water-scarcity-situation-report-7-september-2018.pdf [Accessed 25th April 2019]

7 Appendix I – Key legislation, regulations, and guidance documents for PWS

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

The Private Water Supplies (Scotland) Regulations 2006

Water Resources (Scotland) Act 2013

Water Industry (Scotland) Act 2002

Water (Scotland) Act 1980

Drinking Water Quality in Scotland 2017 Private Water Supplies (DWQR)

Private Water Supplies 2014 Strategy for Improvement: A Multi-Agency Approach (DWQR)

Scotland's National Water Scarcity Plan - SEPA

Scotland the Hydro Nation: Annual Report 2018

Scottish Government Climate Change Plan 2018

Scottish Climate Change Adaptation Programme 2019-2024

Scotland's Centre of Expertise for Water (CREW)

SEPA Water Scarcity Situation Reports https://www.sepa.org.uk/environment/water/water-scarcity/ [Accessed 25/04/2019]

Met Office 2018 weather summaries: https://www.metoffice.gov.uk/climate/uk/summaries/2018 [Accessed 25/04/2019]

UK Climate Projections 2018 (UKCP18): https://www.metoffice.gov.uk/research/collaboration/ukcp [Accessed 25/04/2019]

Scottish Government Guidance on Private Water Supplies: https://www.mygov.scot/housing-local-services/water-supplies-sewerage/private-water-supplies/ [Accessed 13/03/19]

8 Appendix II – Summary of PWS regulations, legislation and stakeholders

The regulatory standards for drinking water quality in Scotland largely stem from European Directives. These standards are based on guidelines developed by the World Health Organisation to protect public health. Key domestic water quality legislation includes:

Water (Scotland) Act 1980 (as amended)

- Scottish Water must supply wholesome water for domestic purposes. It is a criminal offence to supply water unfit for human consumption;
- Scottish Ministers must take enforcement action against Scottish Water if it fails in its duty to supply wholesome water (as defined in the relevant regulations) unless the failure is trivial or Scottish Water is complying with a legally binding undertaking to remedy the matter;
- Local authorities must take appropriate steps to keep themselves informed about the wholesomeness of public water supplies in their area and notify Scottish Water if not satisfied; and
- Local authorities are required to secure improvements to private water supplies if they consider them necessary.

Water Industry (Scotland) Act 2002

- Created the post of Drinking Water Quality Regulator for Scotland (DWQR);
- Set out responsibility for enforcing The Water Supply (Water Quality) (Scotland) Regulations 2001;
- Defines DWQR's independent status;
- Defines DWQR power to obtain information, power of entry or inspection and power of enforcement; and
- DWQR also has emergency power to require a water supplier to carry out works to ensure quality of water supplied is safe for public consumption.

The Private Water Supplies (Scotland) Regulations 2006

- Define wholesomeness in accordance with the EC Drinking Water Directive 98/83/EC;
- Require local authorities to clocal authoritiessify private supplies according to size and use, Type A or Type B;
- Require local authorities to monitor, risk assess and report on private supplies in their area according to clocal authoritiessification and risk; and
- Require local authorities to provide advice to private supply owners and ensure improvements are carried out.

The Private Water Supplies (Grants) (Scotland) Regulations 2006

- Provide for grants to be paid to eligible persons to enable them to improve their private water supply; and
- Are administered by local authorities and provide for non-means tested grants of up to £800 per property.

The Private and Public Supplies (Miscellaneous Amendments) (Scotland) Regulations 2015

- Add radon as an indicator parameter; and
- Move colour, taste and odour and pH from national parameters to indicator parameters.

- **The Water Intended for Human Consumption (Priate Supplies) (Scotland) Regulations 2017**
- These Regulations came into force on 27 October 2017 replacing (and partly re-enacting with modifications) the provisions of The Private Water Supplies (Scotland) Regulations 2006 with respect to the formerly defined Type A supplies. They apply to:
- Any supply which supplies 50 or more persons or more than 10m3 per day;
- Any supply which forms part of a commercial or public activity, or where the water is used in a commercial or public activity or where water is supplied to the public; and
- They clarify that domestic rented premises fall into the scope of commercial activity. The table below outlines all areas of relevance for PWS stakeholders:

Area	Stakeholders
Water quality	Owners and users of private water supplies
Provision of drinking water quality legislation	Scottish Government (Drinking Water Quality Division)
Provision of housing legislation	Scottish Government (Housing Division)
Risk assessments, sampling and Environmental Health advice	Local authorities (Environmental Health)
Enforcement of private water supplies legislation	Local authorities (Environmental Health)
Supervision of local authorities' water quality enforcement duties	Drinking Water Quality Regulator (DWQR)
Enforcement of environmental protection legislation and guidance	SEPA Forestry Commission Chemicals Regulation Directorate
Health protection and advice	Health Protection Scotland Health Boards Scottish Government
Environmental Health Professional Development	The Royal Environmental Health Institute of Scotland (REHIS)
Local authority / Scottish Government / DWQR / liaison group	REHIS PWS subgroup. Current members: - Highland Council - Aberdeenshire Council - Argyll and Bute Council **(chair)** - Angus Council - Moray Council - Scottish Borders Council - Perth and Kinross Council
Management of Grants System	Local authorities, Scottish Government
Data reporting	Local authorities to DWQR DWQR / Scottish Government to DEFRA to Europe
Enforcement of Scottish Water Byelaws 2004	Scottish Water
Provision for connection to the public supply	Scottish Water, Scottish Government (Water Industry Team)
Tourism	Visit Scotland, Association of Self Caterers
Estate owner and farmer representatives	Scottish Land and Estates, NFUS

9 Appendix III – letter from DWQR July 2018

Energy and Climate Change Directorate
Drinking Water Quality Division

Scottish Government
Riaghaltas na h-Alba
gov.scot

Chief Environmental Health Officers
of all Scottish Local Authorities

11th July 2018

Dear Colleagues

Water Scarcity and Impact on Private Water Supplies

I am writing to you concerning the current impact of the dry weather on the availability of water in the environment and private water supplies in particular. This letter outlines the current support that is available and sets out the role that Local Authorities and Scottish Water have in supporting those communities or individuals that may be affected.

The current prolonged period of dry weather is affecting the availability of water in the environment. SEPA produces a weekly update on the situation and the latest report (6 July) places the North East, North and East Highland, North Fife, Angus, West Galloway and Girvan in the moderate scarcity category. No areas are currently in the category of significant scarcity. Moderate scarcity means that river flows are very low, soil moisture deficit is high and no significant rain is expected in the immediate forecast. Rainfall totals for Scotland show that this has been the driest May and June since 2010. This has led to very dry soils and low and dropping groundwater and loch levels across the country.

There are currently 7,855 private supplies reliant on surface water or spring water located in the areas designated with moderate scarcity. The Scottish Government is currently aware of a small number of supplies already experiencing difficulties.

Private water supply owners experiencing difficulties may either make their own arrangements for assistance through a private contractor or by purchasing bottled water supplies from local retailers. They may also contact their Local Authority Environmental Health teams for advice and to seek assistance to secure alternative supplies. Local Authorities can request assistance from Scottish Water for a private supply experiencing sufficiency or water quality issues using existing provisions in Section 76 of the Water (Scotland) Act 1980.

In relation to the public supplies, these continue to be maintained by Scottish Water through the tankering of supplies where required. However, the current dry conditions are placing considerable demand on the public supply network and Scottish Water has limited capacity to support private supplies through use of their tanker fleet.

Scottish Water has set up a dedicated team to co-ordinate and respond to requests for assistance which will be provided at no cost to the Local Authority or private supply user. A procedure for Local Authorities to request assistance from Scottish Water for a private water supply has been developed, a copy of which is attached to this letter. Scottish Water will monitor the requests on a national basis and ensure that the Scottish Government is kept updated of the situation and resource requirements.

Local Authorities will need to prioritise the requests for assistance from individual users of private water supplies based on the numbers and vulnerabilities of the people affected. They are also are best placed to provide advice to users of these supplies on managing these supplies during the current dry conditions.

Scottish Water will work in partnership with Local Authorities to put in place solutions for developing private water supply issues, utilising the best available resources from both parties. Given the current circumstances, this may include Local Authorities being asked to assist or facilitate the delivery of bottled or bowser water, at the direction of Scottish Water, to properties/communities affected by disruption. Scottish Water retain a stock of bottled water, static tanks and bowsers for this purpose and these assets will be proactively positioned according to current priorities and in consultation with the relevant Local Authorities.

Regional Resilience Partners are already in contact with Local Authorities to raise awareness of the water scarcity issues and will discuss existing arrangement for response to private water supply shortages. They will continue to work closely with Local Authorities and emergency planning colleagues.

The arrangements set out in this letter reflect the current situation and potential for escalation. They will end once water scarcity situations are returned to normal conditions.

A copy of this letter is also being sent to Local Authority Chief Executives, RRP co-ordinators and Scottish Water.

Yours sincerely

Regulatory Team Leader
Drinking Water Quality Division