



guardians of drinking water quality

## DRINKING WATER INSPECTORATE

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To: Alun Davies AM,  
Minister for Natural Resources and Food

I am pleased to inform you that my report on the quality of drinking water in Wales will be published on 11 July 2013.

*Drinking water 2012* is the 23rd annual report of the Chief Inspector of Drinking Water. It is published in seven parts with two of these covering public and private supplies in Wales. The report sets out the work of water companies, local authorities and the Inspectorate in safeguarding drinking water quality during the calendar year of 2012. In particular, it covers the results of testing drinking water for compliance with the standards set out in regulations implementing the EU Drinking Water Directive. It also describes the actions taken to address failing samples, water quality incidents, consumer complaints and the remediation of potential risks to public health identified either by local authorities or water companies.

### Water supplies in Wales

In 2012, five water companies supplied mains water to nearly three million consumers in Wales. In addition, approximately 196,000 other people living in Wales were reliant on 17,700 private water supplies. Also, during the year, about 150,000 people in Wales attended festivals, shows and other cultural and leisure events that were served by a temporary supply of water.

### Drinking water quality in Wales

The quality of public water supplies in Wales has improved over recent years and it improved further in 2012 with 99.96% of all tests meeting EU and national standards. This is up from the figure of 99.95% recorded in 2011, equalling the figure for the water industry in England and Wales as a whole. The current very low number of failures (0.04%) compares very favourably to the much higher number of failures (1.6%) recorded by the industry in 1991, when regulation of drinking water quality was first introduced.

By comparison, the quality of private water supplies in Wales is unsatisfactory with 7.0% of tests failing to meet the EU and national standards in 2012. This figure is relatively unchanged from the 7.4% of tests that failed in 2010, the year when new private water supply regulations were made in order to address the poor quality of many of these small privately owned supplies in Wales. The new regulatory regime was considered essential to safeguard users of private supplies against recognised health risks. It was also required in order to bring Wales into compliance with the EU Drinking Water Directive.

There are 39 parameters tested for routinely in drinking water and in Wales, every test for 20 of these parameters gave satisfactory results in 2012. The table below records the remaining parameters in terms of whether the failures were in public supplies or private supplies or both. It also shows the failures in public buildings and how almost all of these are due to deficient private supplies. This is important because enforcement to improve failing supplies serving public buildings is a mandatory duty of member states and ministers need to be assured that local authorities are taking action on their behalf, a point I will return to later.

#### Parameters exhibiting one or more failure of a standard in Wales

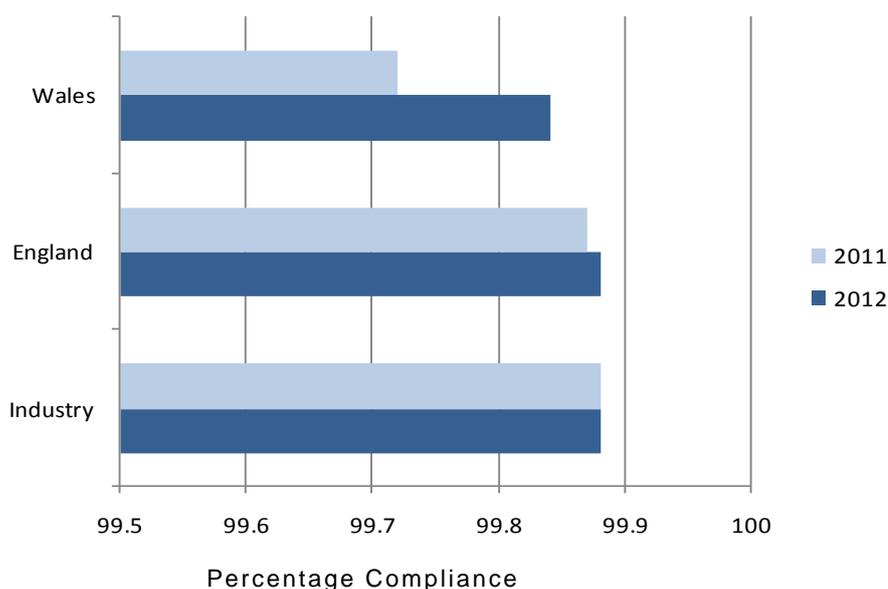
Parameter	Failure(s) of the standard reported in 2012			
	Public water supplies		Private water supplies	
	Non Public buildings	Public buildings	Non Public buildings	Public buildings
Microbiological parameters				
Enterococci			✓	✓
<i>Escherichia coli</i> ( <i>E.coli</i> )			✓	✓
Chemical parameters				
Aluminium			✓	✓
Arsenic			✓	
Bromate			✓	
Cadmium			✓	
Colour			✓	✓
Copper			✓	✓
Iron	✓		✓	✓
Lead	✓		✓	✓
Manganese	✓		✓	✓
Nickel	✓			✓
Nitrate			✓	
Nitrite - works			✓	
Nitrite (Consumer's tap)	✓			✓
Odour	✓		✓	
Taste	✓		✓	
Sodium			✓	
Turbidity 4 NTU				✓

### Water industry performance in Wales

The Inspectorate uses a range of indices to assess the water quality performance of water companies providing public supplies. These indices look separately at water treatment (process control and disinfection indices), service reservoir integrity and network maintenance. In 2012, all four indices showed improvement in Wales, with each index now standing at, or above, the industry figure with one exception, the distribution maintenance index, which though improved (99.84% compared to 99.72% in 2011) continues to be below the figure for the water industry as a whole. This shows that there is further maintenance work to be done to ensure that consumers in Wales do not experience water that is unacceptable because it is discoloured as a consequence of inadequate water treatment or water mains that are in poor condition, or both. Other evidence, namely the rate of consumer contacts to Welsh water companies about the quality of drinking water, supports this situation. In 2012, this figure was 3.4 per 1,000 people, worse than the industry average of 1.9 per 1000 people.

The figure below illustrates the changes in the distribution maintenance index in Wales from 2011 to 2012.

### Distribution maintenance indices



In 2012, there were more water quality events in Wales affecting public supplies (39 compared to 25 in 2011) with about half being of a type that necessitated a detailed investigation by an inspector, similar to the position for the industry overall. However, there were no major or serious events and none gave rise to circumstances where the Inspectorate needed to initiate proceedings in court against a water company in the public interest. Two events in 2012 are described more fully in the report because they offer wider learning points for the

industry: one relates to contamination of a spring source in North Wales with *Cryptosporidium*. The risk was quickly recognised and the ultraviolet (UV) treatment in place was effective (no recorded cases of illness in the community). Nonetheless, the event led Dŵr Cymru Welsh Water to subsequently connect the community to another more secure water supply by constructing a new water main enabling the spring supply to be abandoned. The other case related to a series of discoloured water events affecting consumers in Wrexham as a consequence of flow changes. Dee Valley Water had previously entered into a legally binding agreement to remove historic manganese deposits from the Wrexham ring main but the event highlighted unmitigated risks associated with inadequate treatment and practices at the upstream treatment works. The Inspectorate put in place a notice requiring Dee Valley Water to address these problems.

### Water quality events in 2012

Region	Risk assessment category (DWI)					
	Not significant /minor		Significant		Serious/major	
	2011	2012	2011	2012	2011	2012
Central and Eastern region	125	98	32	49	1	4
London and South East region	51	70	38	33	1	1
Northern region	23	16	47	69	-	-
Western region	34	31	12	27	-	-
Wales	18	20	7	19	-	-
<b>Industry total</b>	<b>251</b>	<b>235</b>	<b>135</b>	<b>193</b>	<b>2</b>	<b>5</b>
Note: Four events affected both England and Wales in 2012						

To ensure the microbiological safety of public supplies, water companies are required to disinfect water at treatment works before supplying it through pipes to consumers. Disinfection can be achieved by any appropriate physical or chemical method, or a combination of the two. The choice of method will depend on a range of site-specific factors but an important consideration is the requirement to keep disinfection by-products (DBPs) to a minimum. This duty in the EU Drinking Water Directive was formally introduced into law in Wales in January 2010. The Inspectorate has made a general assessment of how well companies are meeting the DBP rule and while generally across the industry the picture is satisfactory, the evaluation identified that in 2012 there were nine public water supply zones in Wales (1 DVW, 8 DWR) where the annual average value for a common DBP (trihalomethanes) was greater than one half of the standard. The Inspectorate considers that companies may not have taken all appropriate steps to minimise DBPs in these zones and guidance has been issued to the industry on how the regulatory requirements relating to DBPs should be applied in the context of Ofwat's upcoming periodic review of water prices for the AMP6 period.

Water companies are required to assess the risk to drinking water supplies from pesticide usage in source water catchments and then test for those that might be present. In 2012, companies in Wales carried out 28,592 tests for pesticides and none were found and this good situation has been recorded for three successive years. Whereas, in England, metaldehyde, the active ingredient in some types of slug pellet, has been identified as impacting adversely on water sources in some catchments. In Wales, only two out of the total number (89) of raw water abstraction points have been identified as being at risk and raw water monitoring by Dŵr Cymru Welsh Water in 2012 did not detect metaldehyde above the standard of 0.1µg/l in either of these sources. However, Dŵr Cymru Welsh Water operates six other abstraction points used to supply drinking water to consumers in England. Two of these are at risk and raw water monitoring for metaldehyde in 2012 confirmed the risk in one of these sources of water. In January 2013, the Inspectorate issued guidance to the industry on how the regulatory requirements relating to pesticides, including metaldehyde, should be applied in the upcoming periodic review of water prices for the AMP6 period.

#### Local authority performance in relation to private supplies

In 2012, local authorities in Wales improved the completeness and accuracy of the private supply records submitted to the Inspectorate with details provided for 17,700 private supplies in Wales. More than half of these are located in Mid and West Wales (58%) and close to one-third (29%) are in North Wales. In 2011, local authorities did not provide sufficient information about 895 of the private supplies in Wales to enable them to be classified by the Inspectorate in relation to the reporting requirements of the EU Drinking Water Directive. In 2012 this figure had fallen to 644 and there are now only a few unclassified supplies in North Wales (4) and Mid and West Wales (27). However, there continues to be a problem with respect to the private supply records in South Wales, where a substantial number (613) remain incomplete. The Inspectorate will be contacting the relevant local authorities to verify that action is in hand to rectify this deficiency.

Out of the total of 17,700 private supplies there are 1,418, which are used for drinking, cooking and washing in the provision of services to the public. Around three-fifths of these are used by the tourism and leisure sector (hotels, bed and breakfast accommodation, holiday lets, hostels and campsites) with one-quarter used in premises serving food and around one-seventh associated to public buildings. By the end of 2012, local authorities had risk-assessed approximately half of this type of private supply. Whereas the majority of private supplies in Wales serve just a single domestic dwelling (13,306) and only require risk assessment or testing at the request of the owner, local authorities must risk assess shared domestic private supplies. At the

end of 2012 only 10% of the 2,037 small, shared domestic supplies had a risk assessment in place. In January 2010, Ministers decided to provide grants to local authorities so that initial risk assessments were not a cost burden on the rural economy. The terms of the grant were that by the end of 2014 risk assessments must be in place for all relevant supplies. Therefore, in my report this year, I have provided detailed look up tables recording the progress of each local authority generally in meeting their duties under the private supply regulations and specifically in relation to the work funded by grants. These look up tables highlight the outstanding work and will assist local authorities in prioritising the tasks that must be completed by the end of 2014 to protect public health and bring Wales into compliance with the EU Drinking Water Directive.

When a local authority identifies a failing private supply, action must be taken to inform consumers so they can safeguard their health in the short term and be informed about the nature and timescale of the improvement works that must be carried out to affect a permanent remedy. In 2012, a total of 116 private supplies were made the subject of improvement Notices. It is unlikely that there will be any significant improvement in the safety and quality of private water supplies in Wales until action to identify and improve all of the failing private supplies has been completed by all local authorities.

#### Supervisory activities of the Inspectorate

During 2012 the Inspectorate carried out 1,183 technical audits of water supply arrangements in England and Wales and 165 of these audits were in Wales. In addition, the Inspectorate investigated 49 consumer complaints of which 3 were from consumers living in Wales and handled 322 requests for advice about private supplies from local authorities and 32 of these came from local authorities in Wales. The Inspectorate provided water companies and local authorities with technical guidance on ten topics to facilitate compliance with the drinking water regulations. In addition, the Inspectorate also provided joint technical guidance with the Environment Agency relating to implementation of the Water Framework Directive. Finally, the Inspectorate managed and published 13 research studies funded by Defra to support the carrying out of regulatory water supply risk assessments.

During 2012, Parliament and the Welsh Government introduced changes to the funding arrangements for the Inspectorate and from 2013 onwards, the cost of regulation of public water supplies will be recovered from water companies. Ministers have approved the charging arrangements and these have been published on the Inspectorate's website. The first charges will apply to regulatory work described in Drinking Water 2013. The work of the Inspectorate in

relation to the EU Drinking Water Directive, private water supplies and advising ministers continues to be funded by Defra.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Jeni Colbourne', with a long horizontal line extending to the right.

Prof. Jeni Colbourne MBE  
Chief Inspector of Drinking Water