Cyfoeth Naturiol Cymru
Natural Resources Wales

Wales Bathing Water Report 2017

Druidston Haven

Contents

Crynodeb Gweithredol

Mae dyfroedd ymdrochi o ansawdd da yn bwysig iawn i gymunedau arfordirol, i ymwelwyr ac i economi Cymru. Yn 2017, llwyddodd 103 o blith 104 o ddyfroedd ymdrochi dynodedig Cymru i gyrraedd y safonau a bennir gan y Gyfarwyddeb Dŵr Ymdrochi. O blith y 104 o ddyfroedd ymdrochi a aseswyd yng Nghymru, roedd 80 o safon ragorol, llwyddodd 18 i gyrraedd safon dda a dosbarthwyd 5 yn ôl y safon ddigonol isaf. Methodd un â chydymffurfio â safonau'r Gyfarwyddeb ac fe'i dosbarthwyd fel bod mewn cyflwr gwael – sef Cemaes ar Ynys Môn. Dyma'r un dŵr ymdrochi a fethodd â chydymffurfio yn 2016.

Mae'r Gyfarwyddeb Dŵr Ymdrochi yn cyflwyno system dosbarthu newydd gyda safonau ansawdd dŵr llymach ac yn rhoi pwyslais ar ddarparu gwybodaeth i'r cyhoedd. Rhaid i Aelod-wladwriaethau roi gwybod i'r cyhoedd am reoli dyfroedd ymdrochi, ansawdd dyfroedd ymdrochi ac iechyd y cyhoedd. Mae safonau ansawdd dŵr ar gyfer y dosbarthiadau newydd yn llawer uwch na'r rhai'r Gyfarwyddeb Dŵr Ymdrochi gwreiddiol. Fe ddosberthir dyfroedd ar samplau a gymerwyd am y pedair blynedd flaenorol er mwyn cydbwyso effeithiau sefyllfaoedd eithafol.

Llwyddodd pedwar yn llai o ddyfroedd ymdrochi Cymru â chyrraedd dosbarthiad rhagorol mewn cymhariaeth â chanlyniadau 2016. Dengys data'r Swyddfa Dywydd fod 2017 yn flwyddyn wlyb o'i chymharu â glawiad cyfartalog hirdymor, tra'r oedd y flwyddyn ddata na chafodd ei chynnwys ar ddechrau'r cyfnod dosbarthu, sef 2013, yn flwyddyn sych. Felly, byddai dirywiad yn ansawdd y dŵr yn 2017 yn rhywbeth y gellid ei ddisgwyl gan fod glaw yn golchi llygredd i gyrsiau dŵr o ardaloedd trefol a gwledig ac yn gwneud mwy o waith i orlifoedd carthion, sydd â'r bwriad o atal carthion rhag llifo'n ôl i gartrefi a busnesau.

Cyfoeth Naturiol Cymru sy'n gyfrifol am fonitro a chymharu'r canlyniadau gyda safonau'r Gyfarwydd. Fe archwilir y samplau am ddau fath o facteria, sy'n dangos llygredd o garthion neu dda byw. Gall dŵr llygredig effeithio ar iechyd dynol, gan achosi poen stumog a dolur rhydd os caiff ei lyncu.

Mae camau'n cael eu cymryd gan Cyfoeth Naturiol Cymru, ynghyd â Dŵr Cymru, Awdurdodau Lleol, mudiadau ffermwyr a thirfeddianwyr, i wella ansawdd dŵr. Gwneir gwelliannau'n lleol, fel gwelliannau i garthffosiaeth a gollyngfeydd; ac yn fwy cyffredinol, fel lleihau llygredd dŵr gwasgaredig oddi ar ffermydd yn y cefn gwlad ehangach.

Cyflwynir canlyniadau'r gwaith monitro dyfroedd ymdrochi 2017 yn yr adroddiad hwn. Mae'n trafod sefyllfaoedd mewn dyfroedd ymdrochi unigol oedd yn effeithio ar ansawdd dŵr a'r camau gellid cael eu gwneud er mwyn eu gwella. Ein sialens yw diogelu a gwella ein hadnoddau naturiol ac felly cynnal y safonau uchel a gyflawnwyd yn ein dyfroedd ymdrochi eleni.

Executive Summary

Good quality bathing waters are very important for coastal communities, visitors and the economy in Wales. In 2017, 103 of the 104 designated Welsh bathing waters met the standards set by the Bathing Water Directive. Of the 104 bathing waters assessed in Wales, 80 were of an excellent standard, 18 achieved a good standard and 5 were classified as the minimum, sufficient, standard. One Welsh bathing water failed to comply with the Directive standards and was classified as poor – Cemaes, on Anglesey. This is the same bathing water that was non-compliant in 2016.

The Bathing Water Directive introduces a new classification system with more stringent water quality standards and puts an emphasis on providing information to the public. Member States have to inform members of the public about bathing water management, bathing water quality, and potential threats to bathing water quality and public health. The water quality standards for the new classifications are much higher than those of the original Bathing Water Directive. Waters are also classified based on samples taken from the previous four years in order to even out effects of extreme situations.

Four fewer bathing Waters achieved an excellent classification compared with the results in 2016. Met Office data shows that 2017 was a wet year compared to long-term average rainfall, whereas the year of data that dropped off the beginning of the classification period, 2013, was a dry year. Deterioration in water quality in 2017 would therefore be expected as rainfall washes pollution into watercourses from urban and rural agricultural areas and increases the operation of sewage overflows, designed to prevent sewage backing up into homes and businesses.

Actions are being taken by Natural Resources Wales, together with Dŵr Cymru, Local Authorities, farming organisations and landowners to improve water quality. Improvements are being made locally, such as sewerage and outfall improvements; and more broadly, such as reducing diffuse water pollution from farmland in the wider countryside.

Natural Resources Wales is responsible for monitoring and reporting against the standards in the Directive. Samples are analysed for two types of bacteria, which indicate pollution from sewage or livestock. Polluted water can have impacts on human health, causing stomach upsets and diarrhoea if swallowed.

This report presents the results of the 2017 bathing water monitoring. It discusses situations at individual bathing waters which had an impact on water quality and the improvement actions that can be taken. Our challenge is to protect and enhance our natural resources and so maintain the high standards achieved this year at our bathing waters.

1. Bathing waters in Wales

Wales' bathing waters are of great importance for the economy, for local communities and for tourism. A study commissioned by WWF Cymru in 2012, 'Valuing Wales' seas and coasts' stated that "The coastal and marine environment is an incredible natural asset, contributing £6.8 billion to the economy of Wales and supporting more than 92,000 jobs. Over 60 percent of the population of Wales live and work in the coastal zone, with all our major cities and many important towns located on the coast. The stunning and varied coastline around Wales also helps to explain the importance of the tourism industry, which contributes over £700 million each year to the Welsh economy"[1]. Several of Wales' beaches such as Barafundle and Tenby, are regularly voted Britain's best. Swimming, surfing, angling and rockpooling are popular activities all around the coastline. When the Wales Coastal Path opened in 2012, Lonely Planet named Wales' coastline the top region to visit in the world[2].

The competitiveness of the Welsh tourism industry is dependent on the quality of tourist destinations, including the quality of bathing water. European water policy has played an important role in protecting water resources, and the quality of Welsh bathing sites is a good example of this. The first European bathing water legislation, in the form of the Bathing Water Directive[3], came into force in 1976. The revised Bathing Water Directive was adopted in 2006[4], and 2015 was the first year it was fully implemented in the UK. Management and surveillance methods for bathing waters have been changed and new tighter microbiological standards brought in. More detail on the differences between the original and revised Bathing Water Directives can be found in the Wales Bathing Waters Report 2014[5].

Provision of information to the public is a key part of the revised directive. Profiles have to be prepared and published for all bathing waters and made freely available. These profiles describe the physical and hydrological conditions of bathing areas and analyse potential impacts on (and potential threats to) their water quality. The bathing water profiles are both a source of information for citizens and a management tool.

In Wales, Natural Resources Wales is responsible for monitoring bathing waters and communicating the results to the public. All information, including the profiles is communicated to the public via the Bathing Water Data Explorer[6].

The bathing season begins in May and lasts until the end of September. During the bathing season, Natural Resources Wales monitors bathing water quality and provides information about possible health risks arising from issues such as short-term pollution episodes. At the end of each year, Natural Resources Wales sends data on bathing water quality and information on management measures to the European Commission (EC) and the European Environment Agency (EEA).

[1] WWF Cymru 2012. Valuing Wales' seas and coasts. http://assets.wwf.org.uk/downloads/marine_survey_report_final.pdf.
[2] Visit Wales 2015. Wales coastline and beaches guide. http://www.visitwales.com/explore/coastline-beaches
[3] Council Directive 76/160/EEC of 8 December 1975 concerning the quality of bathing water. http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:31976L0160&from=EN
[4] Directive 2006/7/EC of the European Parliament and of the Council of 15 February 2006 concerning the management of bathing water quality and repealing Directive 76/160/EEC. http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32006L0007&from=EN
[5] Natural Resources Wales 2014. Bathing Waters Report 2014. https://naturalresources.wales/media/3880/wales-bathing-water-report-2014.pdf
[6] Natural Resources Wales http://environment.data.gov.uk/wales/bathing-waters/profiles/

2. Bathing water quality in 2017

In Wales, 104 designated bathing waters were sampled and classified during the 2017 bathing season. All but one of the designated bathing waters met the minimum water quality standards: Cemaes, on Anglesey, which was classified as poor. 80 achieved the highest classification of excellent, 18 achieved good and 5 achieved sufficient (Fig 1a). These results show a deterioration in overall water quality compared with the classifications at the end of the 2016 season, when there were an additional four excellent beaches (Fig 1b).

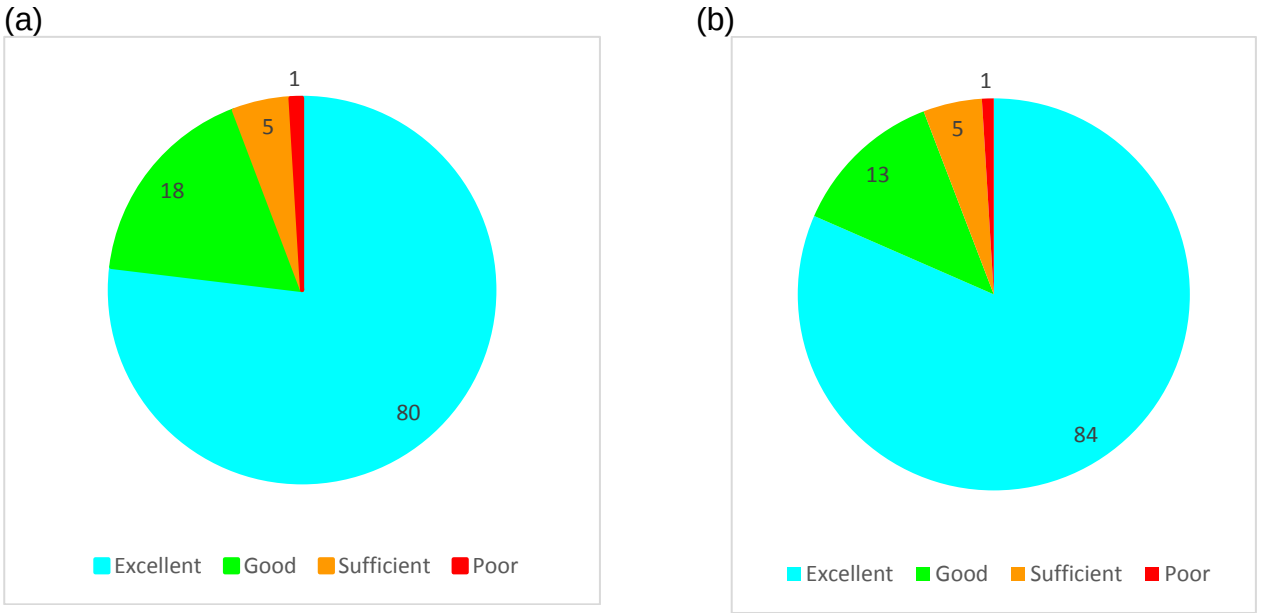


Figure 1. Classifications of Bathing Waters in Wales in (a) 2017 and (b) 2016.

The Bathing Water Directive classifications in 2017 are based on two microbiological parameters: *Escherichia coli* (*E. coli*) and intestinal enterococci. They are calculated from four years of sample data (2014-2017).

Porth Dafarch

For details of the location of the Bathing Waters across Wales see Figure 2 and for details of the results of the analysis and classifications see Annex I.

2.1 Non-compliant bathing waters

Cemaes was the only non-compliant bathing water in 2017. Cemaes failed in 2017 due to two samples with high bacterial values in 2016 and one in 2017. Two of these samples coincided with wet weather and one did not. The impact of these poor samples on the mean and standard deviation of the data was enough to bring Cemaes below the threshold for compliance on the intestinal enterococci determinand, which caused the bathing water to be classified poor overall.

A number of factors contributed to the failure at Cemaes. Cemaes beach is affected by the Afon Wygyr and whatever drains down from the catchment. We have looked at possible sources of pollution and are aware of a number of issues in the area such as cattle accessing the river, dogs accessing the beach, septic tanks and elevated bacterial levels in a couple of drains in the village of Cemaes. NRW is working in partnership with Anglesey Council, Dŵr Cymru Welsh Water (DCWW), Llanbadrig Community Council and Aberystwyth University regarding all the potential issues regarding the bathing water and have developed an action plan. Investigations and remedial actions around Cemaes bathing water are ongoing.

There has been significant investment by DCWW at Llanfechell sewage treatment works, which discharges into the Afon Wygyr upstream of the bathing water and previously contributed significantly to the bacterial levels. DCWW have invested £800,000 on the installation of ultra-violet light banks to kill bacteria in the effluent, improvements to the storm water storage facilities and replacement of storm pumps with variable speed pumps to improve bathing water quality at Cemaes. The works were completed by the end of March 2015, before the start of the 2015 season. Bacterial samples taken by Natural Resources Wales have shown that the ultra-violet disinfection system has made a big difference in the bacterial concentration in the final effluent from the sewage works. In 2018, DCWW will carry out a check on their sewers in the Brookside area of Cemaes. NRW is also in discussion with DCWW regarding the sewage treatment works and its outfall location.

Potential misconnections to the surface water drainage system have been investigated by DCWW and Anglesey Council last year. They used CCTV and undertook house to house visits around the Castellior and Gwelfor housing estates. Further investigations are needed to show why the bacterial levels are, at times, elevated in the surface water drain by the beach café. Anglesey Council will also do a CCTV survey in the surface water drain along the High Street which drains down to the pond in the Wygyr Valley. We will re-visit this issue once the CCTV survey is completed. NRW has also been working with Anglesey Council regarding the current sewage treatment facilities in the village of Carreglefn. A report is awaited from consultants and will be acted upon once received. In 2017, a mailshot was done to all potential sites in the Wygyr catchment that are on a septic tank but not registered. Site visits were undertaken to numerous properties to check on the location and operation of septic tanks. Further visits are planned during 2018.

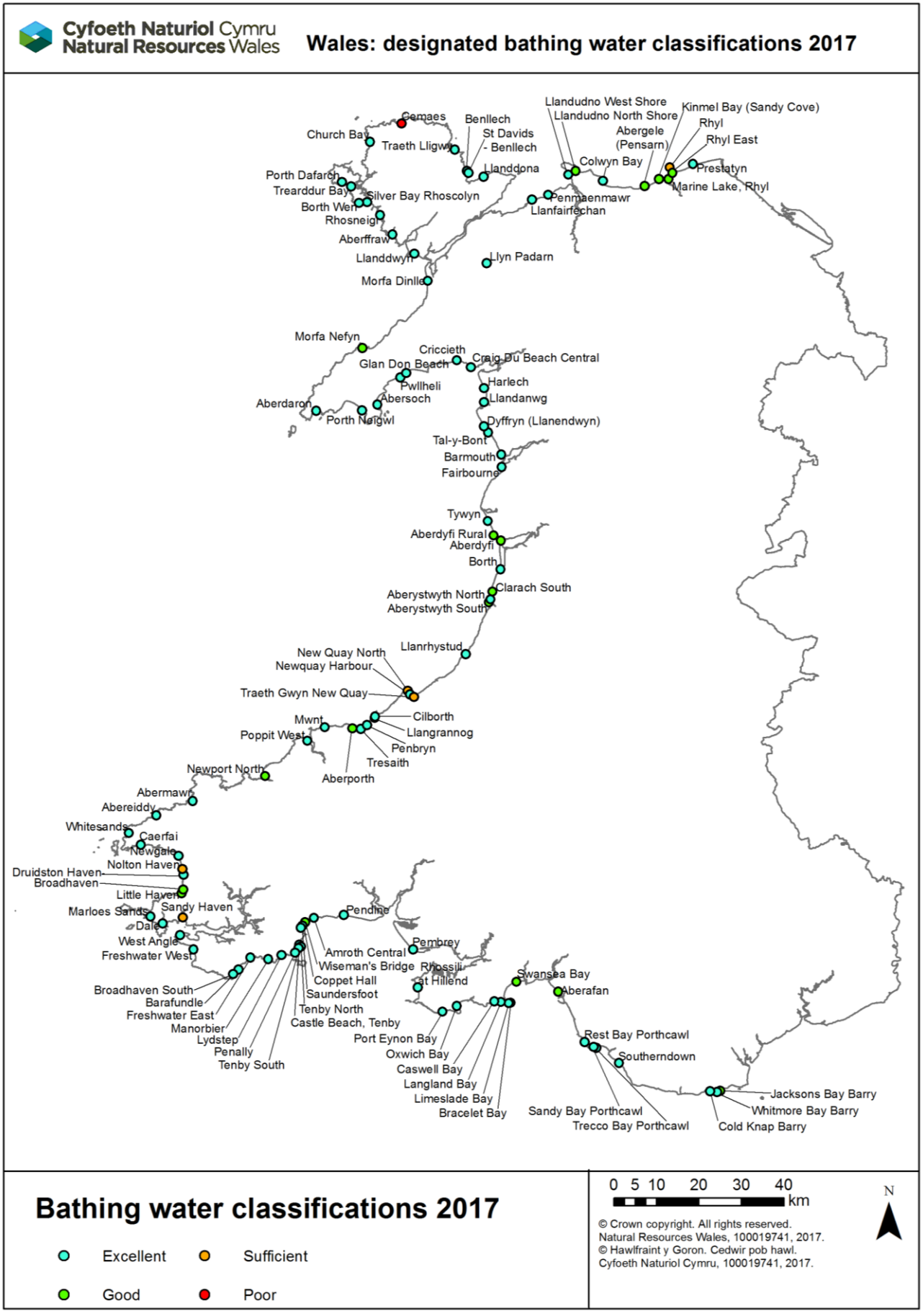
The National Farmers Union, the Farmers Union of Wales and the Country Landowners Association were all briefed in 2017 about the bathing water issues. A face to face meeting is now being sought with all three organisations in order to move forwards on issues such as cattle access. NRW paid for fencing work along the river at two farms in the catchment in 2017. These were the priority sites where cattle were getting access to the river. The river

walks carried out in May and August 2017 was very useful in mapping out where cattle get access to the river. Discussions have taken place with two external organisations who have applied for funding from NRW to deliver the necessary work on the ground. A decision is awaited in June. By working with external organisations there is scope to increase the amount of funding available from other public and private bodies.

A bacterial monitoring programme is being carried out on the Afon Wygyr and its tributaries. This will show where the main bacterial loads are coming from within the catchment. Each time the beach is sampled an additional bottle will be collected that can be analysed for DNA if the bacterial results of the sample are high, to show the source of the faecal pollution. DNA analysis of the one poor sample from 2017 showed high percentages of DNA from ruminants, then humans, then, less significantly, dogs. Horse DNA was not present.

Cemaes bathing water, among others, has a prediction model in place to warn the public on days when poor water quality is expected due to high rainfall. NRW has revised the model for the 2018 season so that the warning will be issued with a slightly lower rainfall trigger limit. Aberystwyth University are developing a more complex prediction model. Following their sampling programme in 2017, they intend to introduce use a multi-parameter river flow and weather-based bathing water quality prediction model which is intended to be in place later in 2018 if possible. Anglesey Council is currently purchasing a weather station towards this and NRW are working with Aberystwyth University on a means of measuring the river flow in the short term. The new model should provide a much better prediction of bathing water quality and allow better information to be provided to the public.

Figure 2. Location and classification of designated bathing waters in Wales in 2017



3. Monitoring and classification in 2017

3.1 Monitoring

In Wales the bathing season runs from 15th May to 30th September each year. Monitoring begins from 1st May as each bathing water has one pre-season sample taken. There may also be a pre-season inspection to identify any issues. Throughout the bathing season, Natural Resources Wales collects water samples at designated bathing sites. The samples are analysed for two types of bacteria, *Escherichia coli* (*E. coli*) and intestinal enterococci.

Bathing water sampler at Marloes Sands

Samples are taken according to a monitoring calendar set out in advance of the season. Each sample must be taken on the specified date or up to four days afterwards or the sampling opportunity is lost because samples taken outside that five day window do not count for the compliance dataset. This calendar can be suspended if abnormal situations occur which could affect bathing water quality.

Abnormal situations

There were two Abnormal Situations during the 2017 season, each affecting two bathing waters; details are in Annex II. There was no need to postpone any bathing water quality samples due to Abnormal Situations in 2017.

3.2 Classification

Sampling for the revised Bathing Water Directive began in 2012 and since classifications are now based on four years of data, 2015 was the first year that the new classifications were used for calculating and reporting. New or recently designated bathing waters may be classified on less than four years data, but with a minimum number of 16 samples. The Directive standards use two microbiological parameters - *E. coli* and intestinal enterococci – and are based on 95th and 90th percentile values (Annex III and Annex IV).

Samples are classified according to four categories: excellent, good, sufficient and poor. An objective was set in the Directive for all bathing waters to achieve sufficient status by 2015, which they did. The classifications will also be used in the periodic reviews of the bathing water profiles required by the Directive: every two years for poor bathing waters, every three years for sufficient and every four years for good.

Short-term pollution, prediction and discounting

At some bathing waters short-term pollution may be predicted by models. Beach operators then update a sign at the bathing water to warn the public on days that poor water quality is predicted. The prediction information is also shared online. If the model has predicted poor quality, the public have been informed and a confirmation sample is taken to show if that pollution lasted less than 72 hours, then a scheduled bathing water sample taken that day may be discounted from the four year dataset. This is possible up to a maximum of 15 percent of samples provided for in the monitoring calendars established for that period, or no more than one sample per bathing season, whichever is the greater. The sample may, optionally, be replaced by a sample taken seven days after the end of the short-term pollution event. Bathing waters where short-term pollution has been predicted during the season can only be classified as sufficient, good or excellent quality if adequate management measures are being taken.

At the end of the 2017 season Welsh Government decided to discount and replace the following samples:

2017	Discounted sample	Replacement sample
Bathing Water	**Date**	**Date**
Swansea Bay	13/07/2017	N/A
Llangrannog	08/06/2017	16/06/2017
Llangrannog	11/07/2017	N/A
Aberystwyth South	08/06/2017	N/A
Aberdyfi	31/07/2017	N/A
Aberdyfi	07/08/2017	N/A
Rhyl	27/07/2017	N/A
Rhyl	07/08/2017	N/A
Rhyl	09/08/2017	17/08/2017
Rhyl East	27/07/2017	04/08/2017
Rhyl East	07/08/2017	N/A
Rhyl East	08/09/2017	N/A
Prestatyn	08/09/2017	17/09/2017

Step change

Major changes at bathing waters such as sewerage infrastructure improvements may mean that data from before the changes are no longer representative of the current bathing water quality. Data from before such changes can be excluded from classification calculations under a provision commonly known as step change.

In 2015, Natural Resources Wales and Welsh Government chose to apply a step change at Cemaes due to the significant investment by Dŵr Cymru at Llanfechell sewage treatment works, discussed in section 2.1. This means that only the 2015-2017 data were used to

calculate the classification for Cemaes at the end of the 2017 season, rather than the full four years of data. No other bathing waters in Wales were affected by step change in the 2017 season.

Southerndown

Annex I: Results of 2017 sampling and analysis of water quality at designated bathing water sites in Wales against the revised Bathing Water Directive.

Bathing water	2017	2016 for comparison
Aberdaron	EXCELLENT	EXCELLENT
Abereiddy	EXCELLENT	EXCELLENT
Aberffraw	EXCELLENT	EXCELLENT
Abermawr	EXCELLENT	EXCELLENT
Abersoch	EXCELLENT	EXCELLENT
Aberystwyth North	EXCELLENT	EXCELLENT
Amroth Central	EXCELLENT	EXCELLENT
Barafundle	EXCELLENT	EXCELLENT
Barmouth	EXCELLENT	EXCELLENT
Benllech	EXCELLENT	EXCELLENT
Borth	EXCELLENT	EXCELLENT
Borth Wen	EXCELLENT	EXCELLENT
Bracelet Bay	EXCELLENT	EXCELLENT
Broad Haven (South)	EXCELLENT	EXCELLENT
Caerfai	EXCELLENT	EXCELLENT
Castle Beach, Tenby	EXCELLENT	EXCELLENT
Caswell Bay	EXCELLENT	EXCELLENT
Church Bay	EXCELLENT	EXCELLENT
Cilborth	EXCELLENT	EXCELLENT
Cold Knap Barry	EXCELLENT	EXCELLENT
Colwyn Bay	EXCELLENT	EXCELLENT
Coppet Hall	EXCELLENT	EXCELLENT
Craig Du Beach Central	EXCELLENT	EXCELLENT
Criccieth	EXCELLENT	EXCELLENT
Dale	EXCELLENT	EXCELLENT
Druidston Haven	EXCELLENT	EXCELLENT
Dyffryn (Llanendwyn)	EXCELLENT	EXCELLENT
Fairbourne	EXCELLENT	EXCELLENT
Freshwater East	EXCELLENT	EXCELLENT
Freshwater West	EXCELLENT	EXCELLENT
Glan Don Beach	EXCELLENT	NOT DESIGNATED
Harlech	EXCELLENT	EXCELLENT
Langland Bay	EXCELLENT	EXCELLENT
Limeslade Bay	EXCELLENT	GOOD
Llandanwg	EXCELLENT	EXCELLENT
Llanddona	EXCELLENT	EXCELLENT
Llanddwyn	EXCELLENT	EXCELLENT
Llandudno West Shore	EXCELLENT	EXCELLENT
Llanfairfechan	EXCELLENT	EXCELLENT

Bathing water	2017	2016 for comparison
Llangrannog	EXCELLENT	EXCELLENT
Llanrhystud	EXCELLENT	EXCELLENT
Llyn Padarn	EXCELLENT	EXCELLENT
Lydstep	EXCELLENT	EXCELLENT
Manorbier	EXCELLENT	EXCELLENT
Marloes Sands	EXCELLENT	EXCELLENT
Morfa Dinlle	EXCELLENT	EXCELLENT
Mwnt	EXCELLENT	EXCELLENT
New Quay Harbour	EXCELLENT	EXCELLENT
Newgale	EXCELLENT	EXCELLENT
Oxwich Bay	EXCELLENT	EXCELLENT
Pembrey	EXCELLENT	EXCELLENT
Penally	EXCELLENT	EXCELLENT
Penbryn	EXCELLENT	EXCELLENT
Pendine	EXCELLENT	EXCELLENT
Penmaenmawr	EXCELLENT	EXCELLENT
Poppit West	EXCELLENT	EXCELLENT
Port Eynon Bay	EXCELLENT	EXCELLENT
Porth Dafarch	EXCELLENT	EXCELLENT
Porth Neigwl	EXCELLENT	EXCELLENT
Prestatyn	EXCELLENT	EXCELLENT
Pwllheli	EXCELLENT	EXCELLENT
Rest Bay Porthcawl	EXCELLENT	EXCELLENT
Rhosneigr	EXCELLENT	EXCELLENT
Rhossili	EXCELLENT	EXCELLENT
Sandy Bay Porthcawl	EXCELLENT	EXCELLENT
Saundersfoot	EXCELLENT	EXCELLENT
Silver Bay Rhoscolyn	EXCELLENT	EXCELLENT
Southerndown	EXCELLENT	EXCELLENT
St Davids - Benllech	EXCELLENT	EXCELLENT
Tal-y-Bont	EXCELLENT	EXCELLENT
Tenby North	EXCELLENT	EXCELLENT
Tenby South	EXCELLENT	EXCELLENT
Traeth Lligwy	EXCELLENT	EXCELLENT
Trearddur Bay	EXCELLENT	EXCELLENT
Trecco Bay Porthcawl	EXCELLENT	EXCELLENT
Tresaith	EXCELLENT	EXCELLENT
Tywyn	EXCELLENT	EXCELLENT
West Angle	EXCELLENT	EXCELLENT
Whitesands	EXCELLENT	EXCELLENT
Whitmore Bay Barry Island	EXCELLENT	EXCELLENT
Aberafan	GOOD	GOOD
Aberdyfi	GOOD	SUFFICIENT

Bathing water	2017	2016 for comparison
Aberdyfi Rural	GOOD	GOOD
Abergele (Pensarn)	GOOD	GOOD
Aberporth	GOOD	EXCELLENT
Aberystwyth South	GOOD	GOOD
Broad Haven (Central)	GOOD	EXCELLENT
Clarach South	GOOD	GOOD
Jackson's Bay Barry Island	GOOD	GOOD
Kinmel Bay (Sandy Cove)	GOOD	EXCELLENT
Little Haven	GOOD	GOOD
Llandudno North Shore	GOOD	GOOD
Marine Lake, Rhyl	GOOD	EXCELLENT
Morfa Nefyn	GOOD	EXCELLENT
Newport North	GOOD	EXCELLENT
Rhyl East	GOOD	GOOD
Swansea Bay	GOOD	GOOD
Wiseman's Bridge	GOOD	GOOD
New Quay North	SUFFICIENT	SUFFICIENT
Nolton Haven	SUFFICIENT	SUFFICIENT
Rhyl	SUFFICIENT	SUFFICIENT
Sandy Haven	SUFFICIENT	SUFFICIENT
Traeth Gwyn New Quay	SUFFICIENT	GOOD
Cemaes	POOR	POOR

Annex II: Details of abnormal situations at designated bathing water sites in Wales during the 2017 bathing season.

The information below is derived from the water quality data section of Natural Resources Wales' Bathing Water Explorer[7].

Bathing Water	Start-End Date	Abnormal Situation Description	Comment
Castle Beach, Tenby	31/05/17 – 02/06/17	Potential contamination from sewage	Pollution which could potentially affect Tenby Castle and Tenby South beach as a result of an intermittent sewage to the River Ritec. This is currently under investigation.
Tenby South			
Rhyl	15/06/17 – 17/06/17	Bacterial contamination	An incident on the 15th June 2017, approximately 10km upstream of Rhyl has resulted in farm slurry impacting on the River Clwyd. We expect this to result in a risk of increased bacteria levels in the bathing waters at Rhyl for the duration of Friday 16th June 2017, and have declared an abnormal situation for this period. Officers from NRW are working to ensure the impact on the River Clwyd and Rhyl and Rhyl East bathing waters are minimised.
Rhyl East			

Abnormal situations remain in place for 24 hours after the end of the pollution to allow two tidal cycles for the pollution to flush away.

[7] Natural Resources Wales http://environment.data.gov.uk/wales/bathing-waters/profiles/

Annex III: Parameters used for classification of coastal waters and transitional waters (such as estuarine bathing waters) under the revised Bathing Water Directive.

Parameters measured are *E.coli* and IE (intestinal enterococci). Percentiles are values that should theoretically be complied with 90 or 95 percent of the time (based on the distribution of the data). They do not refer to values complied with by 90 or 95 percent of samples.

Classification	Parameter			
	E. coli* 95th percentile	**IE 95th percentile***	***E. coli* 90th percentile***	**IE 90th percentile***
Excellent	250	100		
Good	500	200		
Sufficient			500	185
Poor	Fails to meet any of the above standards			
Not classified	Does not have enough samples in the four year calculation window			

* Colony forming units (cfu)/100ml

Annex IV: Parameters used for classification of inland waters under the revised Bathing Water Directive.

Parameters measured are *E.coli* and IE (intestinal enterococci). Percentiles are values that should theoretically be complied with 90 or 95 percent of the time (based on the distribution of the data). They do not refer to values complied with by 90 or 95 percent of samples.

Classification	Parameter			
	E. coli* 95th percentile	**IE 95th percentile***	***E. coli* 90th percentile***	**IE 90th percentile***
Excellent	500	200		
Good	1000	400		
Sufficient			900	330
Poor	Fails to meet any of the above standards			
Not classified	Does not have enough samples in the four year calculation window			

* Colony forming units (cfu)/100ml

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Official Statistics

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