



**Cyfoeth
Naturiol**
Cymru
**Natural
Resources**
Wales

Wales Bathing Water Report 2018



Rhossili

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Crynodeb Gweithredol

Mae dyfroedd ymdrochi o ansawdd da yn bwysig iawn i gymunedau arfordirol, ymwelwyr a'r economi yng Nghymru. Yn 2018, gwnaeth bob un o'r 104 o ddyfroedd ymdrochi dynodedig yng Nghymru gyflawni'r safonau a bennir gan y Gyfarwyddeb Dyfroedd Ymdrochi. O'r 104 o ddyfroedd ymdrochi a aseswyd yng Nghymru, roedd 78 o safon ragorol, 21 wedi cyflawni safon dda, ac roedd pump o safon ofynnol, ddigonol.

Mae'r Gyfarwyddeb Dyfroedd Ymdrochi yn cyflwyno system ddsbarthu gyda safonau ansawdd dwr llym ac yn rhoi pwyslais ar ddarparu gwybodaeth i'r cyhoedd. Mae'n rhaid i aelod-wladwriaethau hysbysu aelodau'r cyhoedd am y dull o reoli dyfroedd ymdrochi, ansawdd dyfroedd ymdrochi a'r peryglon posibl sy'n gysylltiedig ag ansawdd dyfroedd ymdrochi ac iechyd cyhoeddus. Mae'r safonau ansawdd dŵr o fewn y gyfarwyddeb bresennol yn llawer uwch na'r rheini yn y Gyfarwyddeb Dyfroedd Ymdrochi wreiddiol. Mae dyfroedd yn cael eu dosbarthu yn seiliedig ar samplau a gymerwyd o'r pedair blynedd flaenorol er mwyn cymedroli effeithiau sefyllfaedd eithafol.

Gwnaeth dau yn llai o ddyfroedd ymdrochi ennill dosbarthiad rhagorol o gymharu â'r canlyniadau yn 2017. Mae data'r Swyddfa Dywydd yn dangos bod 2018 yn flwyddyn sych o'i chymharu â glawiad cyfartalog yn yr hirdymor. O ganlyniad, disgwylir dirywiad yn ansawdd y dŵr yn 2018 oherwydd byddai effaith unrhyw lygredd yn y cyrsiau dŵr o ardaloedd trefol a gwledig yn cael ei gwaethygu yn sgil llifoedd isel.

Mae camau gweithredu ar waith gan Cyfoeth Naturiol Cymru yn ogystal â Dŵr Cymru, awdurdodau lleol, sefydliadau amaethyddol a thirfeddianwyr er mwyn gwella ansawdd y dŵr. Mae gwelliannau ar waith yn lleol, mewn perthynas â charthffosiaeth a gollyngfeydd; ac yn fwy cyffredinol, megis lleihau llygredd dŵr gwasgaredig o dir fferm yng nghefn gwlad yn ehangach.

Mae Cyfoeth Naturiol Cymru yn gyfrifol am fonitro ac adrodd ar y safonau yn y gyfarwyddeb. Mae'r samplau'n cael eu dadansoddi am ddau fath o facteria, sy'n nodi llygredd o garthion neu dda byw. Gall dŵr sydd wedi'i lygru gael effaith ar iechyd dynol, gan achosi anhwylder y stumog a dolur rhydd os caiff ei lyncu.

Mae'r adroddiad hwn yn cyflwyno canlyniadau monitro'r dyfroedd ymdrochi yn 2018. Ein her yw diogelu a gwarchod ein hadnoddau naturiol ac felly cynnal y safonau uchel a gyflawnwyd eleni yn ein dyfroedd ymdrochi.

Executive Summary

Good quality bathing waters are very important for coastal communities, visitors and the economy in Wales. In 2018, all of the 104 designated Welsh bathing waters met the standards set by the Bathing Water Directive. Of the 104 bathing waters assessed in Wales, 78 were of an excellent standard, 21 achieved a good standard and 5 were classified as the minimum, sufficient, standard.

The Bathing Water Directive introduces a classification system with 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 within the existing directive are much higher than those of the original Bathing Water Directive. Waters are classified based on samples taken from the previous four years in order to even out effects of extreme situations.

Two fewer bathing Waters achieved an excellent classification compared with the results in 2017. Met Office data shows that 2018 was a dry year compared to long-term average rainfall. A deterioration in water quality in 2018 would therefore be expected as the effects of any pollution into the watercourses from urban and rural agricultural areas would be exacerbated due to low flows.

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 2018 bathing water monitoring. 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 world².

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 Directive³, came into force in 1976. The revised Bathing Water Directive was adopted in 2006⁴, 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 2014⁵.

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 Explorer⁶.

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 2018

In Wales, 104 designated bathing waters were sampled and classified during the 2018 bathing season. All of the designated bathing waters met the minimum water quality standards: 78 achieved the highest classification of excellent, 21 achieved good and 5 achieved sufficient (Fig 1a). These results show a slight deterioration in overall water quality compared with the classifications at the end of the 2017 season, when there were an additional two excellent beaches (Fig 1b).

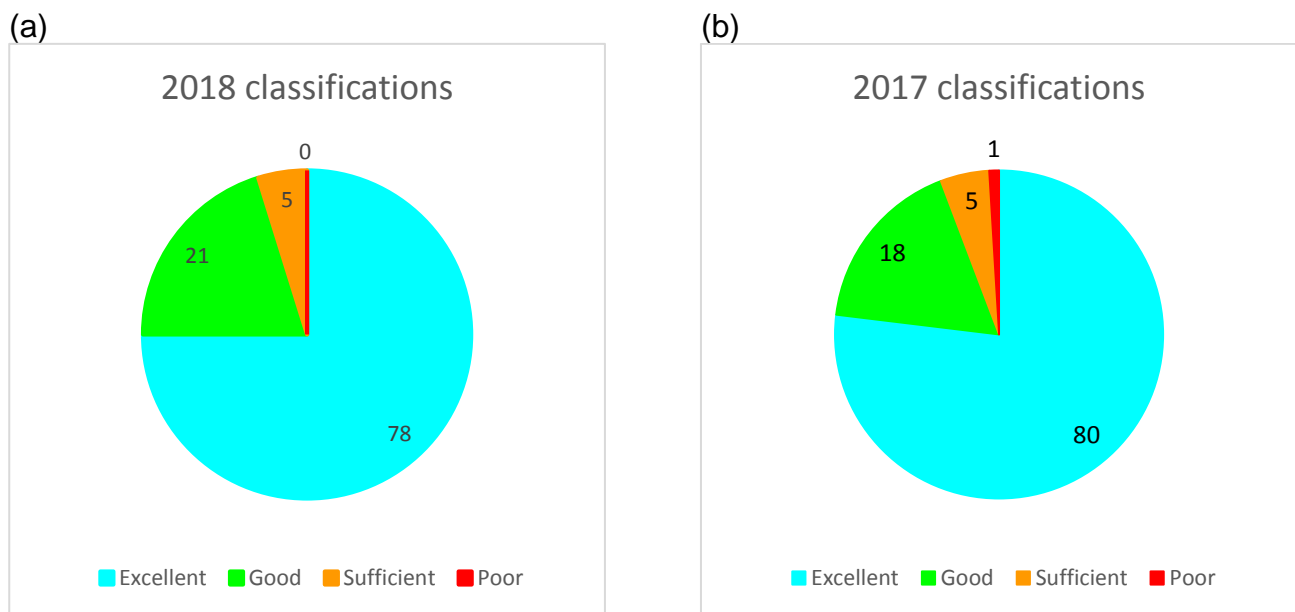


Figure 1. Classifications of Bathing Waters in Wales in (a) 2018 and (b) 2017.

The Bathing Water Directive classifications in 2018 are based on two microbiological parameters: *Escherichia coli* (*E. coli*) and intestinal enterococci. They are calculated from four years of sample data (2015-2018).



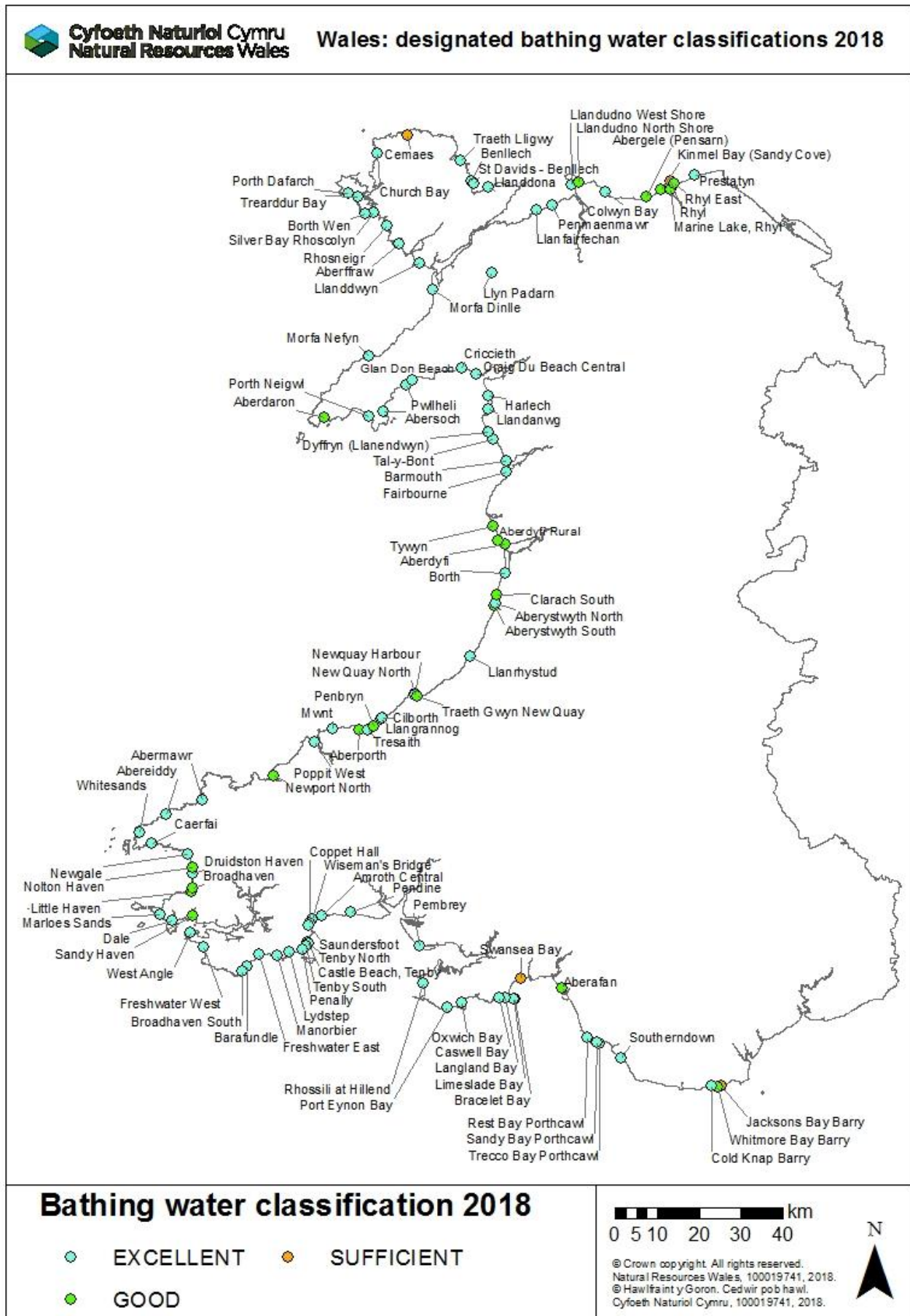
Porth Neigwl

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

There were no non-compliant bathing waters during the 2018 season.

Figure 2. Location and classification of designated bathing waters in Wales in 2018



3. Monitoring and classification in 2018

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 no Abnormal Situations during the 2018 season.

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 II and Annex III).

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 2018 season Welsh Government decided to discount and replace the following samples:

2018 Bathing Water	Discounted sample Date	Replacement sample Date
Swansea Bay	17/05/2018	N/A
Llangranog	11/09/2018	N/A
Cemaes	16/08/2018	24/08/2018

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.

No bathing waters in Wales were affected by step change in the 2018 season.



Southerndown

Annex I: Results of 2018 sampling and analysis of water quality at designated bathing water sites in Wales against the revised Bathing Water Directive.

Bathing water	2018	2017 for comparison
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	EXCELLENT
Harlech	EXCELLENT	EXCELLENT
Langland Bay	EXCELLENT	EXCELLENT
Limeslade Bay	EXCELLENT	EXCELLENT
Llandanwg	EXCELLENT	EXCELLENT
Llanddona	EXCELLENT	EXCELLENT
Llanddwyn	EXCELLENT	EXCELLENT
Llandudno West Shore	EXCELLENT	EXCELLENT
Llanfairfechan	EXCELLENT	EXCELLENT
Llangrannog	EXCELLENT	EXCELLENT
Llanrhystud	EXCELLENT	EXCELLENT
Llyn Padarn	EXCELLENT	EXCELLENT
Lydstep	EXCELLENT	EXCELLENT

Bathing water	2018	2017 for comparison
Manorbier	EXCELLENT	EXCELLENT
Marloes Sands	EXCELLENT	EXCELLENT
Morfa Dinlle	EXCELLENT	EXCELLENT
Morfa Nefyn	EXCELLENT	GOOD
Mwnt	EXCELLENT	EXCELLENT
New Quay Harbour	EXCELLENT	EXCELLENT
Newgale	EXCELLENT	EXCELLENT
Oxwich Bay	EXCELLENT	EXCELLENT
Pembrey	EXCELLENT	EXCELLENT
Penally	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
West Angle	EXCELLENT	EXCELLENT
Whitesands	EXCELLENT	EXCELLENT
Wiseman's Bridge	EXCELLENT	GOOD
Aberafan	GOOD	GOOD
Aberdaron	GOOD	EXCELLENT
Aberdyfi	GOOD	GOOD
Aberdyfi Rural	GOOD	GOOD
Abergele (Pensarn)	GOOD	GOOD
Aberporth	GOOD	GOOD
Aberystwyth South	GOOD	GOOD
Broad Haven (Central)	GOOD	GOOD
Clarach South	GOOD	GOOD

Bathing water	2018	2017 for comparison
Kinmel Bay (Sandy Cove)	GOOD	GOOD
Little Haven	GOOD	GOOD
Llandudno North Shore	GOOD	GOOD
Marine Lake, Rhyl	GOOD	GOOD
Newport North	GOOD	GOOD
Nolton Haven	GOOD	SUFFICIENT
Penbryn	GOOD	EXCELLENT
Rhyl East	GOOD	GOOD
Sandy Haven	GOOD	SUFFICIENT
Traeth Gwyn New Quay	GOOD	SUFFICIENT
Tywyn	GOOD	EXCELLENT
Whitmore Bay Barry Island	GOOD	EXCELLENT
Cemaes	SUFFICIENT	POOR
Jackson's Bay Barry Island	SUFFICIENT	GOOD
New Quay North	SUFFICIENT	SUFFICIENT
Rhyl	SUFFICIENT	SUFFICIENT
Swansea Bay	SUFFICIENT	GOOD

Annex II: 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			
	<i>E. coli</i> 95th percentile*	IE 95th percentile*	<i>E. coli</i> 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 III: 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			
	<i>E. coli</i> 95th percentile*	IE 95th percentile*	<i>E. coli</i> 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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