

# UK Biodiversity Indicators 2019

This document supports  
B7. Surface water status

## Fiche

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**B7. Surface water status**

**Type:** State Indicator

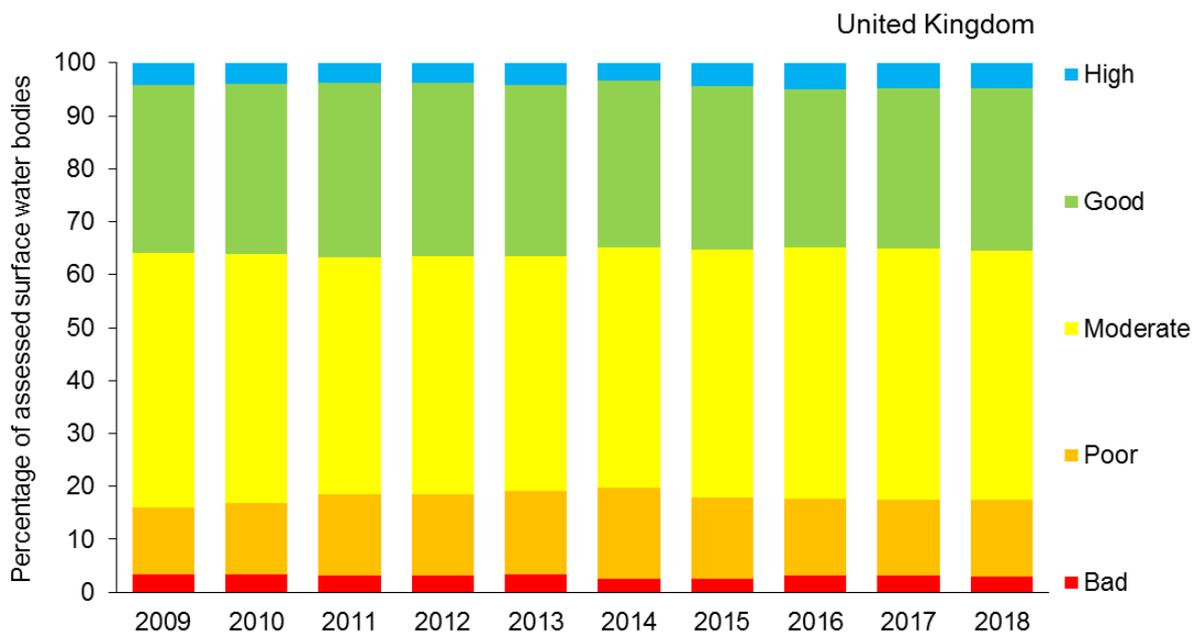
**Summary**

There has been a small decrease in the overall number of surface water bodies in the UK awarded high or good ecological status since the indicator was first prepared in 2009 and a similar decrease in the short term, between 2013 and 2018 (Figure B7i). In 2018, 35% of surface water bodies were assessed under the Water Framework Directive (WFD) as being in high or good status compared with 36% in 2009 and 37% in 2013.

**Indicator Description**

The Water Framework Directive (WFD) is an important mechanism for assessing and managing the water environment in the EU, through a 6-yearly cycle of planning and implementing measures to protect and improve the water environment. This indicator shows the percentage of surface water bodies in each status classification and assesses the change in the percentage of water bodies in the UK awarded a good or high surface water status classification under the WFD. Around 10,000 water body assessments are included in the indicator each year; including rivers, canals, lakes, estuaries and coastal waters.

**Figure B7i. Status classification of UK surface water bodies under the Water Framework Directive, 2009 to 2018.**



**Notes:**

1. Based on numbers of surface water bodies classified under the Water Framework Directive (WFD) in England, Wales, Scotland and Northern Ireland. Includes rivers, canals (Northern Ireland does not report on canals), lakes, estuaries and coastal water bodies.
2. A water body is a management unit, as defined by the relevant authorities.
3. Water bodies that are heavily modified or artificial (HMAWBs) are included in this indicator alongside natural water bodies. HMAWBs are classified as good, moderate, poor or bad 'ecological potential'. Results have been combined; for example, the number of water bodies with a high status classification has been added to the number of HMAWBs with high ecological potential.
4. The results published each year relate to data reported in that year under the WFD; data reported in a given year relate to data collected over the previous year (for Scotland) and previous 3-year period (for England, Wales and Northern Ireland). From 2016, England, Wales and Northern Ireland have moved to a triennial reporting system. Wales and Northern Ireland reported in 2018 and will report next in 2021; England reported in 2016 and will report

next in late 2019. Classifications are valid until they are next assessed; therefore, for years where a country does not report, their latest available data are carried forward.

5. The percentage of water bodies in each status classification has been calculated based on the total number of water bodies assessed in each year.
6. The number of water body assessments included varies slightly from year to year: 10,835 water body assessments were included in 2009; 10,763 were included in 2010; 10,783 in 2011; 10,705 in 2012; 10,764 in 2013; 10,799 in 2014; 10,379 in 2015; 9,297 in 2016; 9,298 in 2017; and 9,300 in 2018. These figures were revised for the 2017 publication.
7. The reductions in the number of assessments made in 2015 were due to England, Wales and Northern Ireland adopting the monitoring and classification standards laid down in cycle 2 of the WFD. This means that data from 2014 onwards (when Scotland adopted the cycle 2 monitoring and classification standards) are not directly comparable to those in earlier years.

**Source:** Department of Agriculture, Environment and Rural Affairs for Northern Ireland; Environment Agency; Natural Resources Wales; Scottish Environment Protection Agency.

Assessment of change in status of UK surface water bodies			
	Long term	Short term	Latest year
Percentage of UK surface water bodies in 'High' or 'Good' ecological status		 2013–2018	No change (2018)

**Note:** The short-term assessment is based on a 3% rule of thumb. The base year for this assessment uses a 3-year average. See [Assessing Indicators](#).

### Indicator description

The WFD specifies the quality elements that can be used to assess the surface water status of a water body. Quality elements can be biological (e.g. fish, invertebrates and plants), chemical (e.g. heavy metals, pesticides and nutrients) or indicators of the condition of the habitats and water flows and levels (e.g. presence of barriers to fish migration and modelled lake level data). Classifications indicate where the quality of the environment is good, where it may need improvement and what may need to be improved. They can also be used, over the years, to plan improvements, show trends and monitor progress.

The ecological status of UK surface water bodies is a measure that looks at both the biological and habitat condition status of a water body. Some small differences exist in the way the administrations and environment agencies implement the methods and tools for assessing water body status.

### Relevance

Surface waters with good status support a diverse assemblage of aquatic invertebrates, fish, mammals and birds. The EU Water Framework Directive aims to improve and integrate the way water bodies are managed throughout Europe. Member States aim to reach good chemical and ecological status in inland and coastal waters by 2027 at the latest. The UK is striving to improve and protect the condition of the water environment, and objectives to improve and protect each water body have been set, as well as measures defined to ensure the objectives are met.

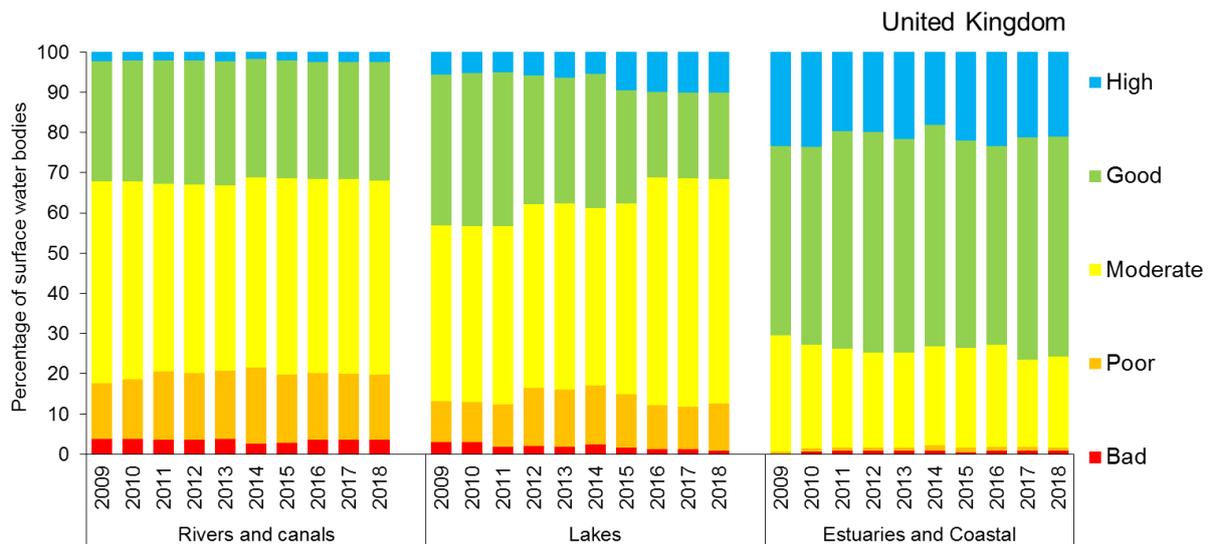
## Background

The WFD came into force in December 2000 and became part of English, Welsh, Scottish and Northern Irish law in December 2003. It requires the UK to plan and deliver a better water environment. The WFD has a number of water quality objectives. The key aspects for the EU are the protection of:

- aquatic ecology;
- specific unique and valuable habitats;
- drinking water resources; and
- bathing water.

In 2018, 3,294 surface water bodies (35%) in the UK were in high or good status (Figure B7i). A breakdown of the headline measure by water body type is presented in Figure B7ii and Table B7i. In 2018, 32% of rivers and canals, 32% of lakes and 76% of estuaries and coastal water bodies in the UK were in high or good status. Table B7i also shows a further level of disaggregation, splitting the data by country.

**Figure B7ii. Surface water status classification of UK surface water bodies, by water body type, under the Water Framework Directive, 2009 to 2018.**



### Notes:

1. Based on numbers of surface water bodies classified under the Water Framework Directive (WFD) in England, Wales, Scotland and Northern Ireland. Includes rivers, canals (Northern Ireland does not report on canals), lakes, estuaries and coastal water bodies.
2. A water body is a management unit, as defined by the relevant authorities.
3. Water bodies that are heavily modified or artificial (HMAWBs) are included in this indicator alongside natural water bodies. HMAWBs are classified as high, good, moderate, poor or bad 'ecological potential'. Results have been combined; for example, the number of water bodies with a high status classification has been added to the number of HMAWBs with high ecological potential.
4. The results published each year relate to data reported in that year under the WFD; data reported in a given year relate to data collected over the previous year (for Scotland) and previous 3-year period (for England, Wales and Northern Ireland).
5. The percentage of water bodies in each status classification has been calculated based on the total number of that type of water body assessed in each year.
6. The total number of water bodies assessed varies slightly from year to year.
7. The 2013, 2014 and 2015 data are not entirely like-for-like due to the time differences in phasing in the reporting to cycle 2 standards. It also means that data from 2014 onwards are not directly comparable to those in earlier years.

**Source:** Department of Agriculture, Environment and Rural Affairs for Northern Ireland; Environment Agency; Natural Resource Wales; Scottish Environment Protection Agency.

**Table B7i. Percentage of surface water bodies awarded each status classification in 2018; by country and water body type.**

Country	Status classification	Type of water body			Total
		Rivers and canals	Estuaries and coastal	Lakes	
England	High	0%	1%	0%	<b>0%</b>
	Good	15%	28%	16%	<b>16%</b>
	Moderate	62%	65%	71%	<b>63%</b>
	Poor	19%	2%	11%	<b>18%</b>
	Bad	3%	4%	1%	<b>3%</b>
	<b>Total number of water bodies</b>	<b>3,901</b>	<b>166</b>	<b>589</b>	<b>4,656</b>
Scotland	High	7%	31%	31%	<b>13%</b>
	Good	48%	68%	31%	<b>49%</b>
	Moderate	25%	1%	26%	<b>21%</b>
	Poor	15%	0%	11%	<b>12%</b>
	Bad	5%	0%	1%	<b>4%</b>
	<b>Total number of water bodies</b>	<b>2,409</b>	<b>505</b>	<b>334</b>	<b>3,248</b>
Wales	High	0%	2%	1%	<b>0%</b>
	Good	44%	22%	19%	<b>40%</b>
	Moderate	47%	75%	67%	<b>51%</b>
	Poor	8%	2%	13%	<b>9%</b>
	Bad	1%	0%	0%	<b>0%</b>
	<b>Total number of water bodies</b>	<b>724</b>	<b>55</b>	<b>124</b>	<b>903</b>
Northern Ireland	High	0%	0%	0%	<b>0%</b>
	Good	31%	40%	24%	<b>31%</b>
	Moderate	57%	56%	29%	<b>56%</b>
	Poor	9%	4%	33%	<b>10%</b>
	Bad	2%	0%	14%	<b>2%</b>
	<b>Total number of water bodies</b>	<b>447</b>	<b>25</b>	<b>21</b>	<b>493</b>
<b>UK</b>	<b>Total number of water bodies</b>	<b>7,481</b>	<b>751</b>	<b>1,068</b>	<b>9,300</b>

**Notes:**

1. The data for England have been carried forward from 2016, however there have been minor amendments to the figures. Data for Scotland, Wales and Northern Ireland are for 2018.

- This table was presented as the number of surface water bodies rather than the percentage of surface water bodies up to and including the 2018 publication.

**Source:** Department of Agriculture, Environment and Rural Affairs for Northern Ireland; Environment Agency; Natural Resource Wales; Scottish Environment Protection Agency.

In the UK, WFD status classification is based on information obtained from monitoring of water quality and biological elements in both long-term surveillance networks and more risk-based operational networks.

The programme of monitoring that takes place in a given period is informed by the results of the previous cycle of monitoring and risk assessments. Where it is known with high certainty that a water body is in a good or less-than-good status, monitoring effort can be refocused to areas at higher risk. This helps to target resources where they are needed most.

Surveillance water bodies are monitored more comprehensively. One objective of surveillance monitoring is to look for signs of impact from pressures in order to validate risk assessments and provide a consistent, long-term monitoring network of sites. At water bodies chosen for the surveillance network, data collectors aim to monitor all quality elements over a river basin management plan cycle.

If there are no sampling data for a particular classification period, results from previous classifications may be rolled-over into the classification assessment. For example, river phosphorus results are calculated from data from the previous 3 years. If there are no data in that sampling period, the last classification assessment is rolled forward.

The introduction of new WFD monitoring data and classification standards in 2014 (including a new baseline adopting all of the new standards, tools, designations and water body boundaries) has led to a step change in the number of water bodies assessed as being in each status classification in following years. It also led to a reduction in the total number of water bodies being assessed because under the new WFD guidance, water bodies below the 10km<sup>2</sup> catchment area no longer need to be included. The formal reporting of new standards in cycle 2 of the WFD uses the second cycle plans published in 2015. In Scotland, refined methods and environmental standards have been used to assess water body condition since 2013. Small numbers of changes to surface water body boundaries occurred throughout the period, and in 2013 groundwater body boundaries were refined to reflect improved understanding.

Table B7ii below gives a breakdown of the standards reported by each UK country in the transition to the formal adoption of cycle 2 in 2015. The 2013, 2014 and 2015 data presented in Figures B7i and B7ii are not entirely like-for-like due to differences in phasing in reporting to the cycle 2 standards by the 4 countries.

**Table B7ii. Water Framework Directive standards reported by UK countries during the transition from cycle 1 to cycle 2.**

Country	Reporting year		
	Up to and including 2013	2014	From 2015 onwards
England	Cycle 1	Cycle 1	Cycle 2
Wales	Cycle 1	Cycle 1	Cycle 2
Scotland	Cycle 1	Cycle 2	Cycle 2
Northern Ireland	Cycle 1	Cycle 1	Cycle 2

Information on the objectives to improve and protect each water body, as well as measures defined to ensure the objective are met, can be found for each of the 4 UK countries on their respective website (see links below). Information on status from more than 127,000 surface water bodies across Europe have been combined into an [EU level report](#).

## Goals and targets

### Aichi Targets for which this is a primary indicator

**Strategic Goal B.** Reduce the direct pressures on biodiversity and promote sustainable use.



**Target 8:** By 2020, pollution, including from excess nutrients, has been brought to levels that are not detrimental to ecosystem function and biodiversity.

### Aichi Targets for which this is a relevant indicator

**Strategic Goal B.** Reduce the direct pressures on biodiversity and promote sustainable use.



**Target 5:** By 2020, the rate of loss of all natural habitats, including forests, is at least halved and where feasible brought close to zero, and degradation and fragmentation is significantly reduced.



**Target 10:** By 2015, the multiple anthropogenic pressures on coral reefs, and other vulnerable ecosystems impacted by climate change or ocean acidification are minimized, so as to maintain their integrity and functioning.

**Strategic Goal D.** Enhance the benefits to all from biodiversity and ecosystems.



**Target 14:** By 2020, ecosystems that provide essential services, including services related to water, and contribute to health, livelihoods and well-being, are restored and safeguarded, taking into account the needs of women, indigenous and local communities, and the poor and vulnerable.

### Web links for further information

Reference	Title	Website
GOV.UK	Improving water quality	<a href="https://www.gov.uk/government/policies/improving-water-quality">https://www.gov.uk/government/policies/improving-water-quality</a>
EIONET: European Topic Centre on Inland, Coastal and Marine waters	Ecological and chemical status and pressures in European waters	<a href="https://www.eionet.europa.eu/etcs/etc-icm/products/etc-icm-reports/ecological-and-chemical-status-and-pressures-in-european-waters-etc-icm-technical-report-1-2012">https://www.eionet.europa.eu/etcs/etc-icm/products/etc-icm-reports/ecological-and-chemical-status-and-pressures-in-european-waters-etc-icm-technical-report-1-2012</a>
European Commission	Water Framework Directive	<a href="http://ec.europa.eu/environment/water/water-framework/info/intro_en.htm">http://ec.europa.eu/environment/water/water-framework/info/intro_en.htm</a>

Reference	Title	Website
European Environment Agency	Waterbase – WISE	<a href="http://water.europa.eu/">http://water.europa.eu/</a>
Environment Agency	River Basin Management Plans	<a href="https://www.gov.uk/government/collections/river-basin-management-plans-2015">https://www.gov.uk/government/collections/river-basin-management-plans-2015</a>
Natural Resources Wales	The Water Framework Directive	<a href="https://naturalresources.wales/guidance-and-advice/environmental-topics/water-management-and-quality/water-quality/improving-water-quality/?lang=en">https://naturalresources.wales/guidance-and-advice/environmental-topics/water-management-and-quality/water-quality/improving-water-quality/?lang=en</a>
Northern Ireland Environment Agency	River Basin Plan	<a href="https://www.opendatani.gov.uk/dataset/northern-ireland-river-water-bodies">https://www.opendatani.gov.uk/dataset/northern-ireland-river-water-bodies</a>
Department of Agriculture, Environment and Rural Affairs	River Basin Management Planning	<a href="https://www.daera-ni.gov.uk/topics/water/river-basin-management">https://www.daera-ni.gov.uk/topics/water/river-basin-management</a>
Scottish Environment Protection Agency	Monitoring and classification	<a href="http://www.sepa.org.uk/environment/water/">http://www.sepa.org.uk/environment/water/</a>
Scottish Environment Protection Agency	Water Bodies Data Sheets	<a href="http://apps.sepa.org.uk/waterbodydatasheets/">http://apps.sepa.org.uk/waterbodydatasheets/</a>

Full details of this indicator, including a datasheet are available at: [jncc.gov.uk/ukbi-B7](http://jncc.gov.uk/ukbi-B7)

**Last updated:** September 2019

**Latest data available:** 2018